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AMERICAN VETERINARY REVIEW.

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AMERICAN VETERINARY REVIEW.

FEBRUARY, 1906.

Correspondents will please note the change in address of Dr. Roscoe R. Bell, from Seventh Avenue and Union Street, to 710 East Second Street, Borough of Brooklyn, New York City.

EDITORIAL.

EUROPEAN CHRONICLES

PARIS, FRANCE, Dec. 15, 1905.

THE FRENCH EXPERIMENTS WITH BOVOVACCINE.—At last the experiments of Melun are over. Begun a year ago, thanks to the energy of the Perpetual Secretary of the Société de Médecine Vétérinaire Pratique, Mr. Rossignol, who succeeded in obtaining funds from private sources, and from the official assistance of societies, and from departmental as well as from the General Government, these experiments, carried on by Prof. Vallé, were closed on Dec. 3d, 1905, by the slaughtering of all the animals, viz., the vaccinated and their controls, an even number in each series, whether the vaccinated included those that received the bovovaccine through the veins and were infected in the same way, or those that were vaccinated by an injection under the skin and were infected in the same way; or, again, those which after having been vaccinated were exposed by cohabitation with tuberculous animals.

The objects in view were of two kinds: (1) to find out if the bovovaccine was harmless (that is, would not give tuberculosis to those which received it); (2) if it was efficacious and would give immunity. The first was demonstrated by the fact that vaccinated in December, 1904, those which received the bovovaccine at that time were free from disease in June, 1905, when the infection of experimentation was carried out.

I have kept our readers *au courant* of what was going on. To-day I resume the results, which went beyond all expectations: 6 vaccinated and infected by venous injections, when slaughtered were free from any tubercular lesions, one had only trifling lesions of old chronic pneumonia, not of tuberculous nature. The 6 controls were all diseased; of 7 vaccinated and infected through the skin, 5 were completely *indemne* of tuberculous lesions, 2 had little remains of adenitis at the seat of injection, the 7 controls were all infected and had more or less extensive lesions. Of the vaccinated subjects which had been exposed to cohabitation two were killed and found free from disease. Two others which had been exposed to this more natural mode of infection were sent to Alfort, where they are still kept exposed to be slaughtered after a certain lapse of time, thus preventing the possible supposition that the exposure had not been sufficiently long for the infection to take place.

* * *

Sueh are, in a few words, the results that were presented at the general slaughtering. Are they conclusive? Are they final? Yes, conclusive because these experiments have proved that cattle can be vaccinated against disease; and not final because before deciding we must wait for the results of further inquiries and experiments that Prof. Vallé is carrying out on guinea-pigs with material obtained from the slaughtered animals; to decide if, as it is claimed by some adversaries of the method, those lymphatic lesions are not the carriers of latent infection, which at a later date might develop. The results of these will be published later on. Will the method of von Behring be a practical one, and will it enter into the domain of general execution?

I am afraid that the impression is that it will not, unless some important modification of serious natures are made in the manipulations of the vaccine.

For the present all that can be said is that, all is well that ends well, and certainly Dr. von Behring can feel proud of the success obtained at Melun.

THE IID. DAIRY CONGRESS.—The International Congress of Budapest was scarcely closed when that of Tuberculosis was opened in Paris, and this last event had just ended its labors when another international meeting was called to order, viz.: the IId. Dairy Congress, the first having been held two years ago in Brussels. Opened on October 16, it lasted until the 19th. The work of the Congress was divided into six sections, which were themselves subdivided into a number of subsections, some of which related to the technology of milk and were of little interest to veterinarians, while in others there were subjects interesting to general medicine, and especially to veterinary science, and having veterinarians for reporters. Among those were the "Hygiene of the Cow-Shed," in which five important questions were the occasions of interesting reports.

The five questions were treated as follows:

(1.) What are the most practical means to insure the keeping of milch cows in excellent hygienic conditions and to protect the milk from being soiled while the animal is milked?

(2.) The official duties in the control of the cleanliness of cow barns.

(3.) In the actual stage of science, define the pathological conditions which render milk dangerous for use.

(4.) The obligation of submitting to the tuberculin test milch cows whose milk is to be used for the alimentation of children.

(5.) Statistics on the frequency of the elimination of bacilli of tuberculosis through udders apparently healthy, compared to that of well clinically characterized tuberculous mammitis. Measures to be taken to the sanitary point of view.

* * *

The following resolutions were adopted by the Congress:

(1.) That departmental or provincial committees be appointed, whose duties shall be to urge the improvement of stabling by the organization of conferences, competitions, prizes, and whatever means they may see fit.

(2). That veterinarians have charge of close inspection of all dairy establishments.

(3.) That milk introduced in cities or places of large agglomeration of people, be submitted to a control analogous to that relating to meats.

The Congress recognized and declared that all milch cows affected with an infectious disease may give a milk which is dangerous to the health of the people, and expressed the following wishes:

(1.) That all females used for the production of milk for consumption be provided with a health certificate delivered by a veterinarian, and that all dairy establishments be the object of repeated sanitary inspection.

(2.) That all tuberculous milch cows, even without any appreciable clinical sign, giving a marked and positive reaction to tuberculin, be removed from the dairy, or that her milk be used only after having been heated to a temperature sufficiently high and long to render the tuberculous bacilli harmless. [This was not voted at the General Meeting.]

(3.) That the milk shall be used raw only when coming from cows that have not reacted to tuberculin, test having been made under a competent organization.

(4.) All commercial products of milk coming from tuberculous animals must be sterilized before being exposed for consumption.

* * *

The next congress will take place in 1907 at The Hague, in Holland.

* * *

ASPERGILLUS FUMIGATUS IN THE DOG.—The list of the aspergilloses is still rather limited, and although the writings of Meyer, Emert, Kitt, Rivolta, Perroncito, Bollinger and many others have made known a few facts relating to the presence of some of the varieties of aspergillus and principally the *A. fumigatus*, as causes of diseases, the history of those affections is rather meagre. Indeed, while birds, wild as well as

domestic, have furnished the largest number of instances where aspergillus have been found, while men have also been the subjects of recorded cases of nasal mycosis, according to Neumann, the observations of Schütz, Zurn, Martin, Roeckl, Mazzanti and Rivolta are the only ones which tell us of the pathogenic rôle played by aspergillus, which was found in cases of broncho-mycosis, pneumomycosis observed among a few mammalia, such as horses, oxen, cows and lambs. Aspergillus has also been found to be the cause of parasitic otitis in man and also in dogs, as observed by Gotti, Zurn, and Spinola.

With this brief history, the two cases that I have found in the *Clinica Veterinaria* from Prof. Stazzi, of the Milan School, are interesting, showing as they do the presence of a nasal mycosis in dogs, probably consecutive to an attack of rhinitis, having for cause a foreign substance, small splinters of wood, of straw, etc., carriers of aspergillus on its surface. These cases were accompanied with symptoms of chronic coryza, with more or less abundant muco-purulent discharge, which being examined with the microscope revealed the presence of the fungi. In some cases the discharge is not sufficiently abundant to be noticed. The rhinitis caused by the aspergillus more than any other inflammatory lesion or neoplasms of the nasal membrane, gives rise in nervous and irritable animals to serious reflex manifestations, such as epileptic or even rabiform symptoms.

In one dog, Prof. Stazzi noticed that he had become irritable concealing himself in dark corners of the house; that he frequently shook his head with rage; that he had nervous motions, choreiform contractions, some of which pointed somewhat to rabies. The dog died. At the autopsy, only a brownish spot, covered with a dark green surface, was found on the inferior turbinated bone, which by microscopic examination revealed the presence of the *A. fumigatus.*

In another case the growing threads of the fungus were observed in the nasal discharge. The frontal sinus was trephined, appropriate injections prescribed and followed by the slough of

a thick piece of mucous membrane having a strong mouldy odor. The dog rapidly recovered afterwards.

* * *

THE FEMALE VETERINARIAN.—Quite an interesting professional problem has lately agitated the veterinary world of England, stirred the professional press, and, no doubt, also found its way into daily journals. I refer to the appointment which was made under peculiar circumstances of a lady to the position of veterinary inspector—I say peculiar circumstances, as, according to some editorial notes, it was almost under threat that the election was successful.

An appointment was open in an Irish district, and the Council gave it to a lady, Miss Cust, who had studied at the late New Veterinary College, Edinburgh, went through a four-year course, and received numerous testimonials from the various professors of her ability, and is said to be equal to a large proportion of the members of the profession in scientific knowledge and surgical dexterity; and, yet, says one of the journals, "We understand that the Galway election has been vetoed by the Department of Agriculture," to whom the appointment was to be submitted, and because probably the lady is not an M. R. C. V. S. Notwithstanding all the efforts made by Prof. Williams, the honorable body had refused to examine her for the diploma, as in its estimation women are not eligible.

What the next step will be, will be interesting to watch? It seems as if the Council of the R. C. V. S. will probably be obliged to modify its ruling, although it has to support it the judgment of a Scotch Court, in which it was held that the term "student," referring to admission of candidates for examination before the R. C. V. S., implies "male student."

That a new ruling is necessary must be evident. Ladies are now entering veterinary schools in almost all parts of the world. Russia, France, America, and Australia have their lady veterinarians. Some specialties of veterinary science can be well filled by them, and the presence of one of them at the International Veterinary Congress at Budapest, where she was

one of the most eminent speakers, and the recent election of one as Member of the Société Centrale de Médecine Vétérinaire of Paris, all tend to prove that soon England also must come in line and throw open the doors of the profession equally to students of both sexes.

* * *

THE FUNCTION AND CONSTANCY OF THE PALATINE RUGÆ.—It is certain that every function of the organism has been the subject of many inquiries by physiologists, and that for anatomists and zoölogists every organ and their every constituent have been the object of many observations. Among these, the mouth and the various structures that belong to it have always been of great interest and the field for many beneficial observations. But, as remarked, Mr. R. G. Linton, of the Anatomy Department of the Royal Veterinary College of Edinburgh (?), so far comparatively little work has been done on the rugæ which are present in the mouth of mammalia on the hard palate, and it is under the title of "The Morphology of the Mammalian Palatine Rugæ" that he has published in the *Veterinary Journal* of October, 1905, the results of a series of observations which he has made, and where he records the examination of as many animals as he probably had an opportunity to make and which show that the comparison that he has made is certainly not without interest when are taken in consideration the great variety of rugæ met with, the difference in their number, etc. Indeed in comparing a series of palates, variations are found in the number of ridges; in the character of their summits; in the nature of their slopes; in the intervals that separate them and in the distance to which they extend backwards on the bony plate.

The series of animals subjected to the observations of Prof. Linton covered some 42 subjects belonging to 13 different species, viz: Marsupials, edentates, ungulates, ruminates, rodentia, myomorphs, hystricomorphs, lagomorphs, hydeacoidia, carnivora, insectivora, chiroptera and primates. The plates that illustrate his article are suggestive of the many variations of the rugæ, as demanded by the peculiar modes of feeding of each in-

dividual. Without following the author in the description of each, I will only relate the general conclusions that are summarized by him.

* * *

"The first point is the remarkable similarity which is found in the rugæ of members of entirely different sub-orders and the great dissimilarity which may exist among the members of the same sub-order. Animals having no zoölogical relation, but which agree in the general form of their rugæ, live mainly on the same kind of food, and where one section differs from others of the same sub-order there is a difference in the character of their food. It is quite clear that the great majority of animals have the rugæ directed towards the back of the palate, and this arrangement seems to be the best, if their function is to aid in the feeding process. At the same time there are many instances where the posterior rugæ are directed forwards; and others, again, where the folds are so directed. No hypothesis of sound basis has suggested itself to explain this peculiarity. An interesting point observed is the difference found in the rugæ of certain ruminants, notably the ox and sheep. In the main they are similar, but those of the ox are richly and finely dentated, while those of the sheep are smooth. Frequently animals that have their main rugæ devoid of dentation have their posterior ones dentated, finely or coarsely. In all cases the best developed and most prominent folds are those situated at the front of the palate, and in the majority of cases these become blended with their fellows from the opposite side or else are so placed as to alternate and have their median ends passing over the middle line. The folds at the back part of the palate, on the other hand, often not so well developed as those in front, usually fail to reach the median raphé, or, if they do reach it, do not become blended with their fellows."

* * *

Some time last summer I was asked here about the Veterinary School of Montreal. As the work of that noble pioneer, my old friend, Prof. McEachran, has stopped by the closing of

the Veterinary Department of McGill University, I answered that there was no school in Montreal, and on the insistence of my inquirer that I was mistaken, I wrote to America. Unfortunately the friend I wrote to was no better informed; his answer was negative. Finally, I received a short time ago the Annuaire de l'Université Laval, of Montreal, and there I was shown my ignorance. There is a School of Comparative Medicine and Veterinary Science attached to the University. In existence since 1886, it is under the control and submitted to the inspection of the Secretary of Agriculture of the Government of Quebec, from which it receives financial support. The course of study is three years, of eight months each. Degrees of Bachelor or of Doctor of Veterinary Medicine are granted by the institution after examination. In the last session there were 15 students, and although this number is small, there is no doubt of an increase in the attendance at an early date, as the need of educated veterinarians is being appreciated by the people of the Province of Quebec. The faculty is composed of eight professors, five of whom are veterinarians.

I would like to ask if there are any graduates of Laval Veterinary School in the A. V. M. A.?* No doubt the requirements of the institution entitle them to admission. A. L.

STATEMENTS WHICH CALL FOR IMMEDIATE OFFICIAL REFUTATION.

The London *Lancet* has been investigating the business of the slaughter of animals for food and the dressing and packing of meat as pursued in Chicago. In its issue for December 30th, in an article entitled "the American Beef Trust and Chicago Stock Yards," our contemporary, basing its statements on investigations by a special sanitary commissioner of its own,

* Without referring to the records, the following names of members of the A. V. M. A., graduates of the Veterinary Department of Laval University, suggest themselves: A. A. Etienne, St. Hyacinthe, Quebec; F. T. Daubigny, Montreal (Dean of the Department); and A. Joly, Waterville, Maine. And right good members they are too.—R. R. B.

draws a revolting picture of the industry. Its strictures relate mainly to the uncleanliness which is said to accompany the work—uncleanliness of a sort to favor the contamination of food products with pathogenic germs. This accusation is a very grave one, and should at once be nailed as an unmitigated fabrication, or, if true in any degree, the faults complained of should be eliminated from the possibility of such criticism.

But, among the *Lancet's* statements there are some which are certainly devoid of any truth, and if, as we suspect, the entire article is based on such defective information, the whole story may be thrown out as unworthy of any belief whatever. For example, it says that hogs are the only animals examined by the Government inspectors, and of them only such as are destined to furnish food products for exportation to countries that would not otherwise accept them, those intended for Great Britain and domestic consumption not being inspected at all.

From what we know of the methods of the Bureau of Animal Industry, from the annual report just issued, from innumerable statistical articles printed in this journal from the most reliable sources, we unhesitatingly brand the statements of the sanitary commissioner of the *Lancet* as a tissue of falsehood.

On account of the high position occupied by that journal in the medical profession of the world, the official head of the Department of Agriculture should address such a vigorous letter to its editor, substantiated by facts, as to cause him, in the interests of truth and decency, to recall the lying reports of his unworthy correspondent.

A NEW THEORY OF THE ETIOLOGICAL FACTOR IN AZOTURIA.

Before the recent annual meeting of the Illinois State Veterinary Medical Association, Dr. H. A. Pressler, of Fairbury, Ill., read a paper dealing with this much discussed and little understood subject, and the REVIEW has been fortunate in securing it for publication in this number. The author discusses many of the theories which have been advanced by

writers in various countries since the recognition of the disease more than a quarter of a century ago; but he does not bring forward all of them by any means, as indeed he could not in the space of time usually allotted to a single paper at an association meeting, so numerous have they become as time has accumulated. They are almost as diverse as they are numerous, there being a new theory promulgated with every author who attempts to explain the causes in operation to produce the well-known and rather constant symptoms presented by its victims.

Dr. Pressler has opened up an entirely new line of thought, and attributes the entire phenomena to the *Strongylus armatus*, which he claims produces circulatory obstruction by thrombosis.

It will be difficult, we believe, for those who have had large experience with the disease to accept this conclusion, based upon the fact that this parasite has been found by the author in post-mortems upon animals dead of azoturia, because their presence is open to the suspicion of being merely coincidental, since they are present in most adult horses. Bollinger found them in 90 to 94 per cent. of horses examined, while Ellenberger dissected 85 horses and found scherostoma in 84 of them.

Dr. Pressler has worked out a rather ingenious theory, but it will not strongly appeal to practitioners who have given the rather constant symptoms, with the almost unvarying history of a short idleness, careful thought; and particularly those who have carefully autopsied their fatal cases in the hope of finding some clue to the mysterious causative agent. The REVIEW has in previous issues detailed many cases occurring in direct opposition to the usual history: convalescents from debilitating diseases, after depletion by physicing, enforced idleness through enfeebled appetite, etc.; but there are exceptions to all rules, and the rule is that azoturia occurs in plethoric subjects, which have become accustomed to regular work, and then are laid by for a short period (a few days), while in robust health. If the period of idleness be prolonged to ten days or two weeks there

is little danger of an attack, the system having accommodated itself to the new conditions; so that the factors which produce the disease are brought into activity while the organism is adjusting itself to lesser requirements of energy. Prof. William Williams, among the first to describe it *in extenso*, has offered the most rational explanation of its etiology, though his theories need elaboration in the laboratory by those who have the time, the facilities and the ability. Our Bureau of Animal Industry, unparalleled in its service to stock-owners and the veterinary profession, has given but comparatively little attention to the diseases of the soliped, save in the matter of dangerously contagious diseases, such as glanders and maladie du coit. The affection under consideration, while not transmissible to other animals, sometimes assumes almost the proportions of an epizoötic, particularly after a universal holiday, like Christmas, New Years and Thanksgiving, especially where they fall on days preceding or following Sunday, thus giving two successive days of idleness to horses that usually perform regular daily work. The victims are mostly valuable draught animals, worth several hundred dollars each, and the loss is felt keenly by their owners. The veterinary profession, in its present knowledge of the disease, is practically powerless to intelligently prescribe for these patients, and it is an embarrassment to our progress which should not be permitted to exist if it is possible to remove it. Will not the directing authority of the Bureau start a scientific and systematic investigation into the nature and cause of azoturia, to the end that intelligent prophylactic or curative measures may be adopted whereby this great bane of valuable horses may be prevented or rendered less fatal?

If the new Chief of the Bureau can place before the country a solution of this subject, his profession, as well as the great horse industry, not only of this country but of the world, will rise up and call him blessed; and our splendid Bureau will add another diadem in the magnificent crown which it wears as the result of its marvelous discovery of the causative agent of Texas fever and swine plague, and its glorious achievements in driving

from this land the great cattle scourges, pleuro-pneumonia contagiosa and foot-and-mouth disease.

COMMON LOCATION OF DENTIGEROUS CYSTS.

The following characteristic note from our valued and valuable collaborator, Dr. W. L. Williams, of the New York State Veterinary College, will serve to make a correction of a statement in the January REVIEW :

"You should take to reading the AMERICAN VETERINARY REVIEW, as it is a very practical publication and not infrequently has things in it which would be instructive to you if carefully studied. For example, in the editorial note on page 1083 of the current REVIEW, you represent Moeller as saying : 'The teeth are oftenest found in the squamous portion of the malar bone.' What? The *malar* bone? Nonsense! My copy of Moeller says 'Schläfenbein,' *i. e.*, temporal bone, and that is where the teeth occur. Possibly some translator has confused you."

Of course, Dr. Williams is right, both in his contention and in his prognostication as to how the error was made. In replying to our contributor, who was badly at sea, we consulted Dollar's translation of "Moeller's Surgery," and copied his explanation of the phenomena and the seat of their most frequent occurrence literally, without giving thought to the palpable error which Dollar made. Our own experience and the examination of many specimens, should have cried out against such a bungling statement. Had we confined ourselves to the REVIEW files, and referred for information to the master description of these monstrosities as given by our own Williams, in his euphonious article, "The Teratology of the Hyo-Mandibular Gill-Slit in the Horse," published in June, 1904, we would not have had to take up so much valuable space in this number to sustain our position as authority on "wild teeth." R. R. B.

PROGRESS AND POVERTY IN ILLINOIS.

The recent meeting of the State Association of Illinois, at Chicago, was probably the best and most representative

gathering of veterinarians ever held by the profession of that State. There were about seventy members in attendance upon the meeting, and almost a third as many visitors; twenty-six new members were added to the roll; of papers presented for consideration there were a full baker's dozen, and a satisfactory clinic was conducted. Enthusiasm was manifest throughout the proceedings, and all in all the meeting was a symptom of professional progress that augurs well for the future in this great live-stock centre; but (there is always a "but") the President in his annual address drew attention to a sickening state of affairs in the chief veterinary position of the State Government. That an unqualified occupant of the office of State Veterinarian should continue to exist there as an affront to the profession of the State and Nation is certainly exasperating, and the Association should not rest until this stench is removed from the nostrils of the profession of the country, as it retards progress, stifles respect, and holds us up to the ridicule of every sister science, who are everywhere at this time extending their hands to us in token of recognition and affiliation.

Dr. A. M. Farrington, Chief of the Inspection Division of the Bureau of Animal Industry, has been promoted to the position of Assistant Chief of the Bureau, which was made vacant by the elevation of Dr. Melvin to the head of the service. These promotions are very satisfying to the profession as showing the just reward of faithful and intelligent service, and will go a long way toward increasing the efficiency of the work in the various departments of the Bureau.

George Fayette Thompson, editor of the Bureau of Animal Industry, is dead, and the country has sustained a great loss, for his was one the brightest minds in the service of the Department of Agriculture, as the incomparable publications of the Bureau since his connection with it, fully attest. His name was prominently urged for the position of Assistant Secretary of Agriculture upon the death of Mr. Brigham.

ORIGINAL ARTICLES.

ETIOLOGY OF AZOTURIA.

By H. A. Pressler, D. V. S., Fairbury, Illinois.

Read before the Illinois State Veterinary Medical Association, at Chicago, Dec. 19, 1905.

The subject as it appears on the programme is, "Etiology of Azoturia." When I stop for a moment to consider that I have undertaken to explain to you what scientific investigators of the world have failed to positively and satisfactorily do, I am intimidated by my own boldness. I therefore beg you to permit me to affix an interrogation to the subject. Considering azoturia and the cause, writers differ. Former writers have classed this disease under so many different heads that recent writers have experienced some difficulty in finding a new name. Thus

(1.) Williams attributes it to uræmic poisoning.

(2.) In France, it has been looked upon as spinal myelitis.

(3.) Weiman, a rheumatic lumbago.

(4.) Dieckerhoff defines it as an acute general disease of the horse, manifested by a severe parenchymatous inflammation of the skeleton muscles, with a bloody infiltration of the bone marrow, especially the femur, and with acute nephritis and hæmoglobinuria. He attributes the attack to exposure to cold.

Dr. Law refutes the above theories in the following way:

(1.) The fact of the sudden onset of the disease in the most acute form, is evidence sufficient against uræmic poisoning.

(2.) Post-mortem does not always reveal the pathological condition of the spinal cord.

(3.) The fact that the seat of affection in many cases apparently confined to the brachial muscles, manifested by local congestion, would not substantiate rheumatic lumbago.

(4.) If exposure to cold were the cause, the attack would be far more common in cold weather, when the horse is suddenly

exposed to cold drafts between open doors and windows, than when he is harnessed and driven so as to generate profuse animal heat. Yet attacks in the stable are virtually unknown, and in almost every instance the onset occurs during a short drive. Friedberger and Fröhner say that the epithet " rheumatismal "may be correctly applied to almost all cases that we meet in practice. They quote Goring as having produced the disease experimentally by exposure to cold, and go on to explain that rest in the stable before the attack causes extreme sensitiveness to cold that is generated by warm environment. The implication of the lumbar, pelvic and femoral muscles, they explain by the stimulation of nutritive metamorphosis by the action of cold on the sensitive skin.

Quoting Dr. Law, there are serious objections to the acceptance of this as the essential cause :

(1.) The disease is not confined to cold seasons ; it occurs also in summer, when the outdoor temperature is higher than the indoor.

(2.) It is more common in the Northern States during spring and autumn.

(3.) The popular writers, quoted with approval by these authors, call it " Monday disease," "Easter disease," etc., indicate the prevalence in Europe also of the malady in more temperate climate.

Another theory is that this disease is due to the peculiarly arranged anatomical circulatory apparatus of solipeds, whereby the blood surcharged with albumen improperly oxigenized is emptied into the vena cava. The blood in this condition is unable to maintain the health and nourishment of the nerve centres and muscular tissue.

The question in my mind is, if nerve centres be poisoned by the increased amount of oxygen, in contact with the blood, which is surcharged with albumen, why is but one leg affected, as often seen, and then perhaps not until the animal has been driven several miles.

If coloring of urine be due to disintegration of blood corpuscles, as some writers have intimated, why do we not have the same in other diseases, as in overheat.

It would seem, if there were an excess of albumen stored up in the blood by forced idleness and liberal feeding, that the kidneys would when called upon to perform their herculean task eliminate some albumen. But albumen in the urine seems to be absent in this disease. Yet the kidneys do eliminate it in other diseases. Neither do I believe that oxygen taken into the animal economy by natural channels becomes a poison, but in all circumstances a purifier, life-preserver and sustainer.

It seems strange to me that in the creation of solipeds, a mistake was made by an insufficient blood circulation through the liver, after every means was provided for the system to maintain itself, every excretory organ, and secreting gland arranged for its function, the nervous system so wondrously planned, in fact every other provision made to keep the machinery in running order, from the time food enters the mouth until digested, assimilated and passed out in the form of waste. It seems strange that this great mistake was made, and that so many animals are compelled to suffer and die.

If the horse has developed from the process of evolution, nature in her process would have provided for such a need as a matter of necessity. If, on the other hand, God in his infinite wisdom created all flesh, he has made no anatomical omissions in its construction. Hence I cannot believe either.

I believe that azoturia is caused primarily by the parasite *Strongylus armatus* or known as the *Sclerostoma equinum* (the *Strongylus armatus*, so named "Strongylus" meaning round, and "Armatus" meaning armed). This parasite is of a gray, brown color, varying in length from ½ to 2 inches, thickest at the anterior end and gradually becoming smaller toward the posterior part, ending in a blunt point. Quoting Dr. Law, the mature worm inhabits the cæcum and colon and the immature the same organs, encapsuled in little pellets of manure, and in cysts of the mucosa, but also a part in the arterial system, es-

pecially in the anterior mesenteric artery and other gastric and in other intestinal trunks. The mature sclerostomata are found attached to the mucosa of the large intestines, into which the head is sunk, for the purpose of sucking blood, and they may be gray, brown or red, according to the quantity of blood which they have imbibed. The sexually immature sclerostomata are found in little pill-like masses of ingesta in the large intestine, and from which they project part of the body through a narrow opening. Another habitat is in cysts of the mucosa of the cæcum and colon, and less frequently of the small intestines. Individual cysts varying in size from a pin-head to that of a hazel-nut, and containing the young worm rolled upon itself, and varying in size, but always asexual. In some cases the cyst is found empty, with a small opening showing the means of escape of the parasite. A third habitat of the mature worm is in the bloodvessels, especially the posterior aorta and its divisions, and still more constantly the anterior and other mesenteric arteries.

I believe that azoturia is caused by the migration of the parasite into the aorta and carried with the circulating blood until the calibre of the vessel becomes too small for the passage of the body where circulation stops, unless reëstablished by anastomosing vessels. Again, in encysting themselves in aneurisms, often particles of the cyst or mucous membrane become detached and circulate until reaching the capillaries, where they are arrested, stopping or retarding, circulation. I have found that specimens obtained in the aorta and mesenteric arteries when placed in a weak preserving agent become dissolved, leaving small particles of their own tissue, which fall to the bottom of the containing bottle. So I think in many case after the migratory stage in the aorta and other inhabited bloodvessels, they disintegrate and enter the smaller channels of circulation. Coming as do the parasites from the intestinal tract, it is quite probable they carry more or less infection with them, which enters the blood, thus accounting for the presence of the streptococcus in the subarachnoid fluid. Further, some cases

of azoturia terminate in death in a short time. I have known cases to die in a few hours' time. Consider the fact that the parasites do inhabit the aorta and irritate the walls of the same, in numerous places producing arteritis. Also that the tunica intima possesses a certain vital property of coagulating blood when ruptured. When a coagulum forms and floats to the diverging vessels an obstruction is formed. The increased blood pressure caused by the accelerated heart-beat during motion, pain and excitement, together with the efforts of the animal, produce an extreme dilation of the aorta, finally causing death from hæmorrhage, or formation of a thrombus. The region showing marked swelling and congestion in most cases are regions supplied by short trunks carrying a large quantity of blood in proportion to their length and terminating in capillaries which supply the large muscles involved in this disease.

It is quite reasonable to suppose that there is a stoppage of circulation with all the results following to just the extent this stasis is maintained. If circulation is reëstablished by osmosis, the recovery is correspondingly so. If osmosis fails to reëstablish circulation and nourish the muscular and other tissues involved, atrophy and even complete degeneration follows, as seen in some cases following azoturia.

On account of the iliacs and femorals being large vessels, and there is not as free anastomosis as in larger vessels, the volume of blood passing to supply the larger muscles is proportionately great. This amount of blood driven with accelerated heart action and assisted pressure of the aorta produces intense pain and paralysis.

Embolisms of the intestinal arteries often produce inflammation and effusion of blood into the intestine or between the walls. The same condition doubtless will result from embolism in the renal vessels. The walls of these by continuous dilations lose their power of contraction, and weaken in this way, allow the sanguineous fluid laden with the product of decomposition to escape with the urine into the bladder, which is so character-

istic of this disease. As we all know, azoturia is usually preceded by a period of idleness; during this period the parasites are most active, and migrate into the larger vessels. Also during this period of idleness the animal is strengthened and the volume of blood is increased.

When starting out after a time of quietude the blood which had passed to perform digestion is called upon to supply the muscles in motion. Thus the current is changed to some extent, carrying with it the offending members.

To substantiate my belief, allow me to give you a brief history of a few cases which I have met with in practice. Most cases of azoturia that I have seen during the past three years that I have been observing, had this parasite, and usually accompanied by the *Sclerostoma tetracanthum.*

Patient, a bay mare, was brought to me for treatment, suffering from colic. Animal would paw, lie down, roll, get up and exhibit all symptoms of colic. I prepared a dose of medicine and administered the same. Talking with the owner, he told me that he had driven a distance of five miles, and the animal took sick when within a half mile of town, and wanted to lie down. While talking further with the owner, I noticed in a short time the animal begin to have some difficulty in getting up, began to sweat and show symptoms of azoturia. In a short time she was no longer able to rise. The muscles of the rump and hip were congested, and passing the catheter the urine was the characteristic color of azoturia, from which it was suffering. I informed the owner that the animal would remain down for some time, and possibly would never get up, as it was apparently a severe case, the limbs being quite stiff. In about two hours, to my surprise, the animal got upon her feet and, assisted, walked about fifteen feet to a box stall. She was not able to be taken home for three days.

A day or two following, a large draft mare was brought to me from a distance of five and a half miles, suffering apparently with colic. Owner had not noticed anything before stopping in town. We gave medicine for colic, but shortly after we

noticed swelling of the muscles of the shoulder. This animal did not become unable to rise, but was very stiff, and could hardly use front limbs. Was taken home the following day. On examination of fæces from both cases I found present the parasite in question.

In August, 1903, I was called to see a case, in consultation. Found a young bay mare that had taken sick one week previous. Had got upon its feet in a few days, and became worse, and was exhibiting the most peculiar gait in walking. The back was arched, stifles flexed, also lower joints, so that the weight was borne on the toes. A short distance away was a fresh passage, which contained both parasites in remarkably great numbers. The animal died the day following, and the doctor in charge held a post-mortem. He informed me that he found a clot of blood around the aorta.

In October, 1903, was called to see a black mare that was down with usual symtoms. Constantly grew worse, and died in about forty-eight hours. Post-mortem revealed *Strongylus armatus* in the colon and in the posterior aorta, within a thrombus.

If time would permit, I could mention many other cases. But the cases which I have cited, with numerous others that might be mentioned, are sufficient evidence in my mind to substantiate my theory, or at least to stimulate further investigation along this line, until it is proven true or false.

"I COULD not possibly get along without the REVIEW."—(*B. Royer, V. S., Shawano, Wis.*)

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THE MEAT INSPECTION SERVICE OF THE BUREAU OF ANIMAL INDUSTRY. — In the meat-inspection service, which was conducted at 151 establishments in 52 cities, 40,221,013 animals were inspected at time of slaughter, almost all of which had also been previously inspected on the hoof. Practically all the meat that enters into the interstate and foreign commerce of the country has been inspected under the direct supervision of the Department of Agriculture. — *(Report of the B. A. I., 1904-5.)*

THE ADVANTAGES OF THE SPLENETIC OR TEXAS FEVER QUARANTINE TO STOCKMEN.

THE WORK OF THE FEDERAL GOVERNMENT AGAINST THE DISEASE.

By D. Arthur Hughes, Ph. D., D. V. M., Cornell University.

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Inasmuch as in the month of February, according to the law, the national quarantine against splenetic or Texas fever among cattle in the Southern States is renewed, an explanation of the work the General Government has done and is doing for the control of the disease is opportune and appropriate for the present number of the American Veterinary Review. At the same time perhaps it is fitting that information on this line of thought should emanate from the National Stock Yards, the official station which does by far the largest part of the work in the supervision of Southern cattle proceeding northward in stock cars from below the quarantine line for immediate slaughter, in accordance with the provisions of the regulations of the Department of Agriculture.

The last fifteen years' experience of a quarantine against Texas fever, has caused stockmen to think much of the national importance of the presence of that disease in the South. As time has gone on, during that period, there has largely come about a changed opinion, on the part of numerous stockmen, on the intent and purpose of the quarantine and with it a changed attitude towards the measures set in motion by the General Government for control of the disease. Instead of open or covert antagonism to preventive measures, we find an accordance with the plans and purposes of the Government. Time was when the majority of stockmen thought only of the disadvantages of the quarantine: they are now seeing that the quarantine regulations were promulgated for the general good of the live stock trade as a whole. They are coming to see that the seeming hardships imposed by the quarantine were a bless-

ing in disguise: for the regulations were instituted with the purpose of reducing the death rate caused by the disease, and to restrain its ravages for the general good of the whole live stock industry. I propose, therefore, in this paper, to study, first, the conditions which lead to a quarantine of the affected district; second, to trace the events previous to 1889, when the quarantine was started, and subsequent to it, which made a quarantine expedient and reasonable; third, to point out the advantages which the quarantine has brought to the live stock trade as a whole.

THE CONDITIONS WHICH LEAD TO A QUARANTINE OF THE AFFECTED DISTRICT.

If now we study the conditions which lead to a quarantine of the affected district, two great facts were to be found which concerned the industry: first, the fact of the presence of an alarming disease among the cattle of the affected district or rather a capability of the disease being propagated through animals of the affected district; second, the fact of the ravages caused by the disease.

Though twenty-five years ago there was profound ignorance and skepticism in regard to the nature and even the existence of the disease among cattle owners. Nevertheless, the presence of a disease, little understood, known to be widely prevalent and extending its ravages to cattle from elsewhere coming into proximity with Southern cattle from the quarantined area in the fields, or indirectly in places where they had been, soon came to be demonstrated. The demonstration of the presence of the disease was the ravages which it was making. Some of the facts on the destructiveness of the disease to cattle ill of it, which were ascertained, caused great alarm amongst owners north, east and west.

As early as 1814 it was known that cattle from South Carolina, though themselves apparently in perfect health, when brought into contact with cattle from Europe or the interior, conveyed a disease to them which generally proved fatal. In

1850 cattle began to be driven from Texas through Arkansas to Missouri and Kansas as feeders. Persons having cattle near where these animals had been trailed reported losses from a mysterious disease which carried off commonly 90 per cent. of their cattle. Between 1850 and 1860 when cattle driven into the States of Kansas, Missouri, Kentucky, Iowa and Illinois, were grazed with native cattle the latter were swept away by a disease similar in appearance and effects. At the close of the Civil War, in 1868, the herds of Texas cattle driven into Illinois, Indiana, Pennsylvania and New York caused similar devastations. For example, at Tolono, Ills., where 15,000 to 18,000 Texas cattle had been landed that summer, every native animal of the bovine race was lost, 926 head in the Township; 5,000 head in the County. Loda, Ills., lost 1,800 head; Warren County, Ind., 1,500 head; Jasper County 400 head; Marion County, 100 head.

Between 1868 and 1884 the ravages continued. "During all this time the cattle driven from Texas and Indian Territory to the Northwestern States and Territories for grazing left a deadly trail behind them, which was destructive to the native cattle that crossed it. The stock yards and the stock cars became more and more infected, and cattle purchased in the public markets and taken back to the farms for feeding were in so many instances found to have contracted the disease that purchasers avoided such places as much as possible. Even our export cattle that were given the greatest care en route became infected, and as many as two or three hundred would sicken in a single ship. This brought American cattle into disrepute and threatened to lead to annoying restrictions or even prohibition by foreign governments." It looks as if alarming conditions like these called for the intervention of some power which would institute measures for the good of all concerned.

EVENTS, PREVIOUS TO 1889, WHICH MADE A NATIONAL QUARANTINE EXPEDIENT.

The unhappy conditions observed must necessarily be met

and controlled. We may, therefore, now trace the events previous to 1889, when the quarantine was started, and subsequent to it, which made a national quarantine expedient and reasonable. First of all we may consider what made a national quarantine *expedient.*

The events, previous to 1889, which made a national quarantine expedient were: 1. The realization that a widely destructive contagious disease was actually present amongst our herds, which rapidly disseminated itself, and was causing greater havoc than the dreaded contagious pleuro-pneumonia among cattle which the Bureau of Animal Industry was at that time stamping out. Though little was definitely known of "Southern Fever," as it was called at the time, its dissemination through Southern cattle became strongly believed in. 2. The Northern States had made quarantine laws discriminating against Southern cattle. 3. There was a growing hostility between the two commercial sections interested in the cattle trade, both of which took a stand and each, as they believed, having reasons for it.

There could be no doubt that wholesale losses were being caused by a single definite disease and more and more events incriminated cattle from sections of the South. These facts were: the coincidence that the disease was set up among all animals of the bovine race in the north, west and eastern parts of the country which grazed on or near the trail over which Texas cattle had passed or with these cattle at any time 30, 60 or even 90 days after the occurrence; together with the fact that the symptoms before death, and the appearance of the organs of the carcasses after death, in every instance were the same.

Indeed so well understood did this become that the States through which these animals were likely to pass, from dread of the disease, enacted quarantine measures against it. Kansas, Kentucky, Missouri, Illinois and eventually many other States passed laws, some of them probably too stringent, regulating the passage of Southern cattle through their territory.

Here indeed was a problem involving a possible animosity between the States. There were millions of cattle in Texas, Mississippi, Louisiana and throughout the stretch of the South which sought a market in Chicago, St. Louis, Kansas City and the other marts of trade. On the other hand, there were millions of cattle in the more Northern States liable to destruction from a fatal disease which those animals carried. As the exact cause of the disease was not known at that time there was ground for differences of opinion on this point. On the one hand there were the observations of the cattle men of the Southwest and Middle West that the herds from the Gulf Coast carried with them some kind of a poison which destroyed all herds in their regions with which the Gulf cattle came in contact. On the other hand, the owners of Gulf Coast cattle were exasperated at the allegations of the cattle men in the Middle West and Northwest, and claimed that their cattle were healthy. The Gulf Coast owners were not only hostile to the men of the western plains, but asserted that the quarantine laws of the Northern States were discriminations against their cattle to reduce competition of their enormous herds with other cattle in the live stock markets. Such was the situation of affairs which made it necessary for the Federal government to take a hand for the assistance of both parties. At any rate a quarantine of cattle which carried the poison was evidently expedient.

EVENTS PREVIOUS TO 1889, AND SUBSEQUENT TO IT, WHICH MADE A NATIONAL QUARANTINE AGAINST SPLENETIC OR TEXAS FEVER REASONABLE.

We may now study the events previous to 1889 and subsequent to it, which made a national quarantine against splenetic, Southern or Texas fever, not only expedient, but *reasonable.* While pointing out the reasonableness of the institution of a quarantine, we may, at the same time, point out why changes are made from time to time in the quarantine line.

I. The reasonableness of the quarantine.

The wisdom of the institution of a quarantine is found: 1. In

the necessity for dealing rationally with the facts causing the differences between stockmen and destroying harmony in the live stock trade; 2. By reason of the fact that a particularly careful study by the Bureau of Animal Industry showed that a line could be found stretching across the country which separated the affected from the unaffected region; 3. The discovery of the cause of the disease and a series of facts which corroborated the original discovery.

Between the years 1865 and 1884 it began to be established beyond controversy that there was such a thing as that which people called by the various names, murrain, acclimation, Spanish, Southern or Texas fever; it was known to devastate many regions; and the losses caused by it brought about a clashing of commercial interests which made it reasonable that the National Government should take hold of the problem. The reasonableness of such a proposal consisted in the fact that there was a dispute as to the existence of the disease; there were doubts, if it existed, as to the accountability of Southern cattle; the greatest industry, or one of the greatest industries, of a series of States covering the grain regions of the Central West and Northwest was becoming arrayed in disagreement with a tier of States in the warmer cattle raising climate further south.

He who reads with close attention the first two annual reports of the Bureau of Animal Industry will find that between 1884 and 1886, therefore, the National Government carried on a most careful investigation to discover the precise geographical distribution of Southern cattle fever. The first report details the location of the infection between the Atlantic coast line and the Mississippi river; the second report, its location from the Mississippi to the Rio Grande.

Six classes of facts served as a basis for decision of the localization of the infection. All of them were based upon three well established conclusions: 1. That cattle from the permanently infected district which were taken beyond this district, and where the infection did not exist, contaminated pastures, and in that way disseminated the disease among the native

cattle in the non-infected district; 2. That cattle from the non-infected district which were taken into the infected district contracted the disease and suffered with the same symptoms as those which contracted it in the non-infected district from exposure to the infection of Southern cattle; 3. that the native cattle of the infected districts enjoyed an immunity from the disease, and, as a rule, do not suffer from it, either on their native pastures or when they were driven into the non-infected section. To determine whether a certain region was infected, the following had to be established: 1. Can cattle from this region cause disease; 2. Do native cattle of this region contract the disease; 3. Do cattle from the non-infected section brought into this region contract the disease. To determine whether a region was non-infected, the following had to be established: 1. Cattle of this region do not cause the disease; 2. The cattle of this section, when pastured upon ranges over which cattle from the infected region have recently grazed, contract the disease; 3. Cattle brought to this section from non-infected parts of the country do not contract the disease unless they have grazed upon pastures recently infected by Southern cattle.

That correct data could be obtained relative to these points a request was sent out in 1885 by Norman J. Colman, Commissioner of Agriculture, to thousands of cattle men in all the countries of Texas, requesting for definite, reliable and abundant information which would lead to a correct demarcation between the infected and the non-infected region of that State. When a multitude of answers to the set of questions, of the kind which were requested, had been received, they were collated, studiously examined and a definite and safe line of demarcation accordingly drawn and based alone on the observations of cattle men as to the effect of moving cattle from one given part of the State or the country to another. In that year it was found that 1,557,503 cattle, or one-fourth of the total assessed in the State of Texas in 1885, were free from the imputation that they caused Southern fever. The extreme care in finding the line of demarcation between the infected and non-infected regions of

Texas was exercised east of the Mississippi. Through information furnished by the cattle men; through information furnished by its special agents and inspectors, the Government came into possession of abundant evidence on the location of the disease.

Shortly after the obtainment of this information came the discovery of the cause of Texas fever, backed up by a series of facts which corroborated the discovery. The survey of the permanently infected district had just been completed and maps made marking out the line when, in 1889 and 1890, the discovery was made that a definite species of tick, which commonly infected the cattle in the infected region, was the agent which chiefly aided in carrying the disease from one animal to another. Without going over the scientific facts which were discovered in support of this opinion, it is enough to record Dr. Kilborne's observations made after careful experiment at Washington: 1. that Northern cattle pastured in a field with cattle from the infected region which were infested with ticks contracted splenetic fever; 2. that Northern cattle pastured in a field with cattle from the infested region that were carefully freed from all ticks by hand picking did not contract splenetic fever; 3. that Northern cattle pastured in a field where no cattle from the infested region had been, but over which had been scattered a large number of ticks, contracted splenetic fever. This shows that ticks of a definite species were the communicators of the virus of splenetic fever to susceptible animals. A definite kind of tick was at the bottom of the mystery.

Even though there was much evidence at hand which, because of the disturbances in the public mind about the disease, because of the investigations which had definitely settled upon the permanently affected district, because of the discovery of the cause of the malady, made Government intervention reasonable; nevertheless, for three years yet, namely, not until 1889, did the Government believe that there was sufficient reason to promulgate an order imposing so far-reaching a quarantine.

On July 3, 1889, however, the first Secretary of Agriculture,

Jeremiah M. Rusk, issued the first order setting in motion a quarantine against the deadly malady. The main points of the order were similar to those at present in vogue—referring to sanitary measures for southern cattle *en route*, the unloading into separate pens and the disinfection of cars—except that the first order was a mild one, for there was no requirement that southern animals be shipped only for slaughter. "A rigid compliance with the above order will insure comparative safety to northern cattle and render it unnecessary to adopt a more stringent regulation, such as the absolute prohibition of the movement of Texas cattle except for slaughter during the time of the year that this disease is fatal." In subsequent orders this "more stringent regulation" has been added and it is in force today.

II. Why modifications are made in the quarantine line.—Considerable progress has been made since 1889 in the control of splenetic or Texas fever, which accounts for the constant modification, year by year, of the Federal regulations for the transportation of cattle. Progress is constantly being made in lessening the area of the infected district. In many sections county after county, which were originally placed below the quarantine line, have been released from restrictions for the reason that, through the intermediation of the State authorities, the ticks have been destroyed and the danger of infection through tick agency been removed. The State authorities, usually near the quarantine line, are endeavoring to clear other counties of ticks; so year by year the quarantine region is diminishing in extent instead of extending as it was before 1889. The Federal authorities coöperate with the State authorities to further their desires in the matter of elimination of the ticks which are the agent of the contagion. Indeed, the Federal government invites the coöperation of the States for the elimination of the disease which is an embargo on the live stock trade of the South with the North. It virtually encourages the eradication of the diseases on the part of the States.

The States may extirpate the ticks county by county and so

push the quarantine line further southward ; they may coöperate through live stock interests—live stock associations, corporations and individuals—for the dipping of cattle to rid them of ticks, which would allow them to pass northward with safety to the animals there. The problem of finding an inexpensive dip which would rapidly destroy the ticks without hurting the animals, now it has been solved, removed the terror of this disease to the industry. Commendable zeal was shown for twenty years in the endeavor to solve this problem. The Beaumont sulphuretted petroleum dip of Texas will probably prove the destroyer of the tick which transmits the plague. For the last two years the Federal Government has authorized its use for the destruction of ticks on animals which are to cross the quarantine line northward.

THE ADVANTAGES WHICH THE SPLENETIC OR TEXAS FEVER QUARANTINE HAS BROUGHT TO THE LIVE STOCK TRADE.

If the conditions up to 1884, and afterwards for that matter, found in the live stock industry made it expedient that a quarantine against splenetic or Texas fever be begun, and if the study of the region where the disease was present, and of the disease itself, made it reasonable that a quarantine should be imposed, what now, we may ask, are the advantages of the quarantine against Texas fever to the live stock trade as a whole?

The main point in the Federal law which established the Bureau of Animal Industry, it seems, is that the aim of the Bureau shall be the control and eradication of contagious or infectious communicable diseases among animals. The office of this organ of the Federal Government would seem to be, therefore, to institute regulations and to set on foot means making for the control, and looking towards the extirpation, of contagions which menace the live stock interests and threaten to create the greatest havoc among our flocks and herds. Large mindedness would seem to be necessary in the formation of such measures. When a disease is rampant and threatens the national live stock

industry the interests of all concerned must be considered. The safety of the public wealth in live stock, which, in the case of cattle, reaches billions of dollars, forbids, it appears, that the Government should take sides with an interested party alone for its particular benefit.

The justice of the regulations, as they have been applied in the national quarantine against splenetic fever, is shown in the direct and indirect results of their application.

The direct results may now command our attention. First, the very general fears of stockmen, on account of the disease, which were so disturbing before the quarantine was begun, have been allayed. Alarm has ceased. Second, the mortality from the disease has been greatly reduced. Third, the restricted traffic in animals from the affected region has prevented the spread of the disease northward, eastward and westward. Fourth, instead of advancing at the rate of four miles a year, it is losing ground and is steadily being pushed further South. The hope is that in process of time the disease may be banished from the continent. Fifth, the presence of the disease in the affected region now has no ill effect on our export trade. Before the quarantine, among mixed herds of Southern and Northern animals exported from New York and Boston, as many as two or three hundred died of Texas fever in a single voyage. Foreign countries feared its introduction among their herds. The disease threatened at one time to shut us out from the European trade. Sixth, stock men are becoming reconciled to the wisdom of the preventive measure of quarantine, and see in it an advantage to the larger interests of the traffic in Southern stock. The methods of shipment under Federal supervision, the feeding along the way in separate pens, the unloading into pens set apart, the disinfection of cars, have silenced the arguments of people against Southern stock, and allayed all fear of danger from the plague. The way is open for Southern animals to successfully compete in open market with other stock.

Besides there have been two indirect results. First, the

quarantine measure has indirectly aided in the improvement of the breeds of Southern cattle. Necessity is the mother of invention. A practical and highly successful method has been devised to bring about, through blood inoculation, an artificial immunity of animals from elsewhere to the plague found in the South. Blooded stock, Herefords and Shorthorns principally, after having been made immune, have been sent South without harm and the Southern herds are showing wonderful improvement. Second, the bad blood which was shown at the stringency of the quarantine fifteen years ago, and the disbelief, on the part of numerous stockmen, that their cattle were either diseased or caused disease, lead to the greatest zeal in the investigation of the cause of Texas fever. When it was discovered that the tick, (*Boöphilus annulatus*) was the agent which carried the disease to susceptible animals, the discovery bore further fruit in the investigation of dipping methods to destroy the tick. The Beaumont sulphuretted petroleum, harmless as it is to the cattle, yet deadly to the tick, inasmuch as it has thus been found to be satisfactory, may well be a great boon to the live stock trade.

SUMMARY OF THE ARGUMENT.

In order to make the main points brought out by this paper a little more clear, we may summarize as follows:

I.—The conditions which lead to a quarantine of the affected district were:

1. The presence in the South of an alarming contagious disease among cattle, the cause of which was not known.
2. The fact of the ravages caused by the disease.

II.—The events previous to 1889, and subsequent to it, which made a quarantine against Texas fever expedient and reasonable.

A.—The expediency of the quarantine determined by:

1. The observations made that a disease brought by Southern cattle was decimating the herds elsewhere.

The observation that in every instance the symptoms and appearances after death of animals contracting the disease were the same.

2. The Northern States had made quarantine laws discriminating against Southern cattle.

3. The growing hostility between the two commercial sections interested in the cattle trade.

B.—The reasonableness of the quarantine determined by:

1. The necessity for dealing rationally with the facts causing the differences between stock men and destroying harmony in the live stock trade.

2. The investigations by the Bureau of Animal Industry showed that a line of demarcation could be made between the infected and non-infected district.

3. The cause of the disease had been discovered and a series of facts were obtained which corroborated the discovery.

C.—Moderation and prudence shown by the Government in the institution of regulations.

1. No hastiness shown in that, though there was abundant evidence at hand for a quarantine in 1886, no quarantine was started until 1889.

2. The mildness of the quarantine regulations of 1889.

D.—Some reasons for the modifications of the regulations concerning transportation of cattle.

1. The eradication of ticks by the State authorities.

2. The coöperation of the Federal Government with the State authorities looking towards the extermination of ticks.

III.—The advantages which the quarantine has brought to the live stock trade as a whole.

A.—What the duty of the General Government in the matter of animal plagues would seem to be:

1. The institution of regulations making for the control and looking towards the extirpation of contagious diseases.

2. Not to take sides with any particular party, but exercise authority for the general good.

B.—How the justice of the regulations, as they have been applied in the splenetic or Texas fever quarantine, has been for the advantage of stock men:

1. The alarms of stock men have ceased.
2. Mortality from the disease has been minimized.
3. The disease does not now spread North, East and West.
4. The disease is losing ground.
5. The presence of the disease in the South has now no ill effect on our export trade.
6. The regulations have silenced the arguments against Southern stock.
7. Indirectly, the quarantine has aided in the improvement of breeds of Southern cattle.
8. Indirectly, it has quickened the endeavors to discover a method to destroy the ticks which transmit the plague.

ESERINE QUICKLY RELIEVES CHOKING—Dr. E. E. Bittle, of New Castle, Pa., writes under date of Jan. 17: "I thought possibly it would be interesting to some of the readers of the REVIEW to know that one grain of eserine, administered hypodermically, relieves choke in the horse. Don't smile at this; but try it."

THE AMERICAN VETERINARY MEDICAL ASSOCIATION will not go begging for invitations for meeting places in 1907. We have no doubt but that the cordial advances made by Lexington, Ky., and Kansas City, Mo., for the meeting of 1906 will be continued in 1907, while Denver, Col., comes forward with a strong bid from professionals and civilians. But the latest aspirant for consideration is conveyed in a letter from far-away Honolulu, three thousand miles out in the Pacific Ocean, where Dr. Monsarrat says the Association will have a hearty welcome, and he personally pledges that we will all have a good time. At this writing, we know of at least three who would make the trip if the Executive Committee so decrees, and these are James L. Robertson, Wm. Dougherty, and W. Horace Hoskins, with the next President *ex officio*.

GELSEMIUM (YELLOW JASMINE).

By W. J. Martin, V. S., Kankakee, Illinois.

Read before the Illinois State Veterinary Medical Association at Chicago, December, 1905.

Parts used.—The dried rizome and rootlets of gelsemium super virens. Prepared in the form of a tincture or fluid extract. The powdered drug is still used to a certain extent in human practice. Although the U. S. Pharmacopœia specifies that the dried rizome and rootlets be used in preparing the tincture and fluid extract, those prepared from the green and fresh roots are by far the best and most active medicinal preparations.

It should be constantly borne in mind that there is a great variability in the strength of the various preparations of this drug offered for sale to consumers, and this no doubt is the cause of the many conflicting opinions among practitioners regarding its therapeutic efficacy, hence care should be exercised to see that only a carefully prepared and physiologically active preparation of the drug be used in order to insure the best results in practice.

Physical characteristics.—Gelsemium is a graceful climbing plant indigenous to the Southern States of North America. It grows to a great height on trees and walls. It flowers in the early spring months, and during this period gives forth a delicate and refreshing odor to the atmosphere in its immediate vicinity. The plant grows in rich moist soil along the seacoast from Virginia to Florida. The flowers are also a narcotic poison.

Gelsemium readily yields its properties to water and dilute alcohol. It contains in its somewhat complex composition a resinous gum, starch and albumen, together with the alkaloid gelsemine and gelseminic acid. The alkaloid gelsemine is said to contain all the medicinal constituents of the crude drug (this I doubt), but, owing to its difficult extraction and the small amount of alkaloid contained in the crude drug, its high price renders its use all but prohibitive for veterinary practice.

Physiological actions.—The physiological action of gelsemium is very similar in both man and the lower animals. In all these the effects of the drug in toxic doses as well as in non-toxic doses is perceptible in from 10 to 20 minutes and extend over a period of from two to three hours on an average. In toxic doses its effects are marked by extreme muscular relaxation and weakness, such as a staggering gait, dilated pupils, ptosis, shallow respiration and labored breathing; the pulse is weak and thready, temperature of the body will often be subnormal, skin will be covered with a cold clammy sweat, and in the dog and cat, severe tetanic convulsions will be present until death occurs from paralysis of respiration. In man the most prominent symptom of gelsemium poisoning is dropping of the lower jaw, though this does not occur in our patients. After death from poisoning from gelsemium, the heart will continue to beat for a short time.

Gelsemium appears to act almost wholly upon the cerebro-spinal system, first affecting the motor and secondly the sensory portions. In poisoning by the drug the posterior extremities of the body (in the horse, cat and dog) are the first to become affected, showing well marked clonic and tonic convulsions to a much greater extent than the anterior extremities. When administering the drug in large doses we should constantly bear in mind its tendency to paralyze the motor and sensory ganglia and thereby cause death by asphyxia due to paralysis of the muscles of respiration.

In both man and animals that have died from gelsemium poisoning, post-mortem examination does not reveal, microscopically at least, any important physiological lesions of the body; under the microscope, however, marked structural lesions have been lately discovered in the nuclei of the motor nerves, or so-called "Nissil bodies." These changes are termed by physiologists as "chromatolysis" of the cells, which constitute the nuclei of the motor cerebral nerves.

Therapeutics.—Gelsemium has long been used in the Southern States in human practice as an arterial and nervous se-

dative and febrifuge in the treatment of the low forms of intermittent and malarial fevers so prevalent in that region. The drug has also been highly recommended in the treatment of pneumonia, pleurisy, spasmodic laryngitis, cough, etc., in man.

From a careful perusal of veterinary therapeutic literature, I have found that the use of gelsemium is not as well known in our profession as it should be, and it is owing to this fact that I have in this paper endeavored to call attention to its valuable therapeutic properties, and am firmly of the opinion that it should be considered as one of the standard medicinal drugs of veterinary materia medica.

In the treatment of the early stages of pneumonia and pleurisy in the horse, gelsemium given in small and repeated doses, every two or three hours, effectually assists in lowering high temperature, lessens the rapidity of respiration, relieves pain and promotes diaphoresis of the skin, and greatly assists in cutting short the period of the disease. The use of the drug is contraindicated in those pneumonic affections when in the secondary stage, when the heart's action is weak, and consolidation of the parenchymatous structnre of the lungs has taken place. In spasmodic cough and laryngitis in the early stages, the drug affords great relief, allaying pain and dyspnœa by its antispasmodic action on the mucous membrane of the fauces and bronchi.

In the treatment of hysteria in the mare and bitch, the drug is of the highest value, and should, in my opinion, be the first drug to be administered in this disease. In cases of difficult or protracted parturition in the mare, we often find the animal in an extremely weak and exhausted condition after the delivery of the foal ; it is at this time when post-partum pains are very apt to supervene and quickly lead to prolapsus uteri if not promptly checked. A full dose of the fluid extract of gelsemium at this time promptly relieves the bearing-down pains without in the least constipating the bowels, as does opium or its alkaloid, morphine.

In medical literature we find mention of numerous cases of

tetanus in man that have been cured by administering large doses of gelsemium. In some of the cases mentioned, as much as 40 minims of the fluid extract of the drug were given every two hours until a subsidence of the most acute symptoms had occurred, and then being followed by 20 minims every two hours for several days. One patient in particular took four fluid drachms of the fluid extract daily for a whole week. I have used gelsemium extensively in the treatment of tetanus in the horse for many years, and while I have never administered a single dose of the drug in this dreadful disease without the animal experiencing almost immediate relief, to a great extent, I must confess that as a curative agent it has not proved to be any more successful in the treatment of this disease than any other drugs in our materia medica.

However, in the early stages of tetanus, I give the animal large doses of gelsemium and keep it up as long as there is any hope of relieving its sufferings. It is best administered in this disease per rectum. In the *Jour. of Com. Med. and Vet. Archives* for Sept., 1896, Dr. W. G. Hollingworth, of Utica, N. Y., records a case of tetanus in a horse which was cured by the use of large doses of the fluid extract of gelsemium administered per rectum. The animal was placed in slings during the treatment. In all the animal received 4 pints of the drug.

In my practice gelsemium has proved to be the best nervous sedative in the treatment of azoturia, especially in the initial stage of the disease. When you are hurriedly called to a case that has just gone down and you find the animal lying flat on its side and unable to rise, the body covered with a profuse perspiration, the animal highly excited, pawing wildly with its fore and hind extremities, throwing its head backward to such an extent that the occipital crest rests on the ground with the nose in the air, the conjunctivæ highly congested, showing marked cerebro-spinal congestion or hyperæmia, and severe nervous spasms of the muscles of locomotion—the whole animal economy demanding the prompt and energetic administration of an efficient nervous sedative. It is in such cases that gelsemium

has given to me the highest degree of satisfaction, not only by calming an over-excited animal and insuring it a grateful rest and relief from its agony, but also permits the practitioner to more closely study the case, as well as to give a breathing spell to the tired owner and attendants.

In such cases of azoturia I never think of administering any other drug but gelsemium, and have always found its action to be most prompt and highly beneficial. I could mention hundreds of such cases of azoturia that have been placed on the high road to recovery by the timely administration of a few doses of this drug, and I would advise each and every one of you to give it a trial when called upon to combat this most disagreeable disease. Even in those cases of the disease when there is no possible hope of the animal's recovery, a full dose of the drug at regular intervals will do much to allay the poor animal's frantic sufferings and smooth its pathway to the grave.

Conium maculatum and calabar bean when combined with gelsemium increase its therapeutic activity, though I much prefer to use it uncombined. In poisoning by gelsemium the best antidote is atropine and morphine given hypodermically, or when this is not to be obtained carbonate of ammonia may be given internally, followed by alcoholic stimulants, fresh air, walking exercise, if possible, together with hot applications and friction to the extremities.

DEATH AT WHOLESALE AND IN A HURRY.—*Columbia, Mo., Jan. 17.*—Hundreds of cattle are dropping dead in southeast Missouri from an unknown cause. In one herd alone 113 cattle died instantly, and in another forty, and it is feared that if the cause be not ascertained the cattle in the affected region will be entirely exterminated. So far the trouble has been confined to New Madrid and Mississippi counties. One farmer, while standing in the field examining a fine beef with a view to shipping it to market, turned his head for a moment to answer some one who called to him from the rear. He heard a thud, and turning around saw the steer lying flat on its back, stone dead, its mouth half full of unconsumed herbage.—(*New York World; Jan. 17.*)

STRANGULATED INGUINAL HERNIA IN STALLIONS.

By W. C. Galbraith, V. S., Wheaton, Ill.

Read before the Illinois State Veterinary Medical Association, Dec. 19, 1905.

I have always considered this unfortunate condition in stallions to be one of the most critical and treacherous we come in contact with. I can well imagine myself out in the country with a fine, valuable stallion on my hands, suffering from strangulated inguinal hernia; and to think how powerless we are, with but limited assistance at hand, which is usually the case, and the patient suffering the most agonizing pain, with no chance for his recovery, except by a scientific operation; then the question immediately arises, can this operation be performed successfully, without leaving the horse a gelding, which undoubtly would decrease his value at least seventy-five per cent. (75%)?

Let us briefly run over the anatomy of the parts which we are about to consider in this operation. In stallions and geldings, the inguinal canal leading from the abdominal cavity to the scrotum, consists of a flat, somewhat funnel-shaped passage about four or five inches in length, but may vary in measurement in different subjects.

The upper or internal opening (annulus abdominis) is from one to one and a half inches in length; it extends in an oblique direction from behind, forward and outward, and is situated one and one-half to two inches from the oblique branch of the os pubis and four to six inches from the linea alba.

Anteriorly and inwardly the abdominal ring is bordered by the posterior edge of the internal oblique abdominal muscle, posteriorly and outwardly by the cremaster or spermatic cord. The vessel supplying the posterior portion of the abdominal walls passes about three-fourths of an inch from its posterior angle and on its inner side. The inguinal ring or outer abdominal (annulus inguinalis), consists of a slit between the inner and outer tendinous aponeurosis of the external oblique abdominal muscle, whose posterior inner angle lies about one and one-

fourth inches in front of the branch of the os pubis, and about two and one-half inches from the middle line of the abdomen; its normal length is about four inches; it likewise passes forward and outward, and opens when the thigh is directed backward and abducted. The interior inner wall of the inguinal canal is largely formed by the inner oblique abdominal muscle, the outward by the crural arch or Poupart's ligament.

Some of the possible causes of strangulated inguinal hernia are: Abnormal width of the annulus abdominis, severe exertion, hard draft on soft ground, struggling under restraint, violent kicking, slipping so as to spread the thighs extremely, large developed testicles, the act of copulation, causing pressure of the viscera toward the pelvis; its production is favored by all circumstances which increase abdominal pressure.

Symptoms.—Colicky pains are first noticed and most generally looked upon as such, at the outset, but they continue and rapidly become more severe; the patient lies down, gets up, and so on repeatedly, then tries to roll on his back, stretches out as if to urinate, kicks with foot on affected side. As you observe closer, you will notice stiffness on the affected side and traction of testicle, lies down and throws himself again and again, then rises in front and sits up like a dog; pulse runs fast and hard. As time passes sweat bedews the body, and you will notice straining as if to defecate. Your anodynes will now have little effect. Should we be called to a stallion showing such symptoms, it is always our duty to examine the scrotal and inguinal regions, and rectal examinations will certainly verify our diagnosis.

Treatment.—Inguinal hernias are always dangerous. Take into careful consideration the physical condition of your patient, as you will have to anæsthetize, and put under severe restraint. Note as near as you can the character of the hernia you may have to deal with, and it is well to remember that incomplete inguinal hernias are more frequently strangulated than those of greater extent. Your treatment must be early and decisive, and should your medicinal treatment and manipulations not

have the desired effect, you must proceed to operate at once.

Procedure.—Everything in readiness, you cast your patient, having the hind quarters raised high enough to cause the bowels to descend forward somewhat, to relieve all the pressure you can upon the pelvic region ; draw the limb on the affected side out as far as possible. The patient now in position, you might try further with manipulation ; if no relief or reduction, resort to the knife.

First, thoroughly wash and cleanse the surrounding parts, clip all hair that is necessary, shave the parts where incision is to be made, disinfect and dress cuts with an antiseptic, whichever you are most familiar with, or have handy, say creolin, eucamphol, or such like ; be sure and get all parts clean, legs and hoofs by all means, and you proceed to administer chloroform. When anæsthetized, have some one continue administering sufficiently to keep your patient where you want him. This you can direct yourself, if your assistant is not experienced.

Make incision external and slightly forward of the testicle, down onto the inguinal canal as near the internal ring as you can. When down to the canal, make a small opening through its peritoneal tunic so that you can admit your forefinger close or tight to the ring ; here you will feel the engorged bowel ; slip your finger as tight as you can to the edge of the ring as a guide ; now force your tenotome through carefully ; it is best to have the cutting edge outward and, if you can, forward ; now press the handle and let it cut through the edge of the ring, which will give away readily ; then gently force your finger forward. I would suggest some antiseptic oil, say olive ; now force into the opening to lubricate the finger, then withdraw your knife and force or press the bowel into the abdominal cavity. You may now even have to resort to rectal manipulation to effect this easily.

Then explore the parts and see that all is back in place and proceed to wash and dress the wound with bichloride (1 to 1,000), dry the surrounding parts and seat of operation ; stitching is not necessary unless you have made a large incision. You now re-

lease the patient; if he is resting, leave him in the recumbent position until muscles are nicely relaxed. It is well to keep him on his feet for 48 hours and have perfect cleanliness about his stall. Subsequent treatment consists of comfort, sedatives, enemas and restricted diet.

DRS. GEO. O. FORSYTH, Columbia, N. J., and John G. Feaster, Jacobstown, N. J., were bitten by a rabid horse the latter part of January. Both veterinarians are under treatment at the Pasteur Institute, New York.

DR. W. H. DALRYMPLE, of the Louisiana State University and Experiment Station, was prominently urged, says the New Orleans *Picayune*, as successor to Major J. G. Lee, Commissioner of Agriculture and Immigration. Mr. Chas. Schuler, a prominent planter and member of the State Board of Agriculture and Immigration, received the appointment.

DOMESTICATED WHALES.—Professor Muller, of St. John's, Newfoundland, who was the first man to discover that whale flesh could be prepared for eating, has now succeeded in domesticating a herd of more than fifty sulphur cow whales, and has perfected an apparatus for milking them. The milk is fresh and sweet, and peculiarly rich in nutritive and medicinal qualities. The yield from a full-grown whale is from five to seven hogsheads a day. It is much thicker and richer than the best Jersey milk, and possesses a peculiarly pleasant and distinctive flavor which those who have tasted it pronounce superior to any known milk. Chemical analysis has shown that the milk of the sulphur whale is rich in those products which give to cod liver oil its value as a remedial food. Professor Muller has invented and patented a process for making leather from the internal membranes of the whale. When tanned and finished, it is of great durability and fine texture. Besides its superior quality, the whale leather furnishes single pieces of much greater dimensions than it is possible to procure from any other animal. It is possible, according to the inventor, to obtain from the skin of a full-grown sulphur whale a strip of leather about 300 feet in length and three and a half feet in breadth. From the pleural lining a tube of leather 25 feet in diameter can be obtained. Large quantities of whale meat are being sold in the West Indies, and the natives declare that they infinitely prefer it to South American jerked beef.

PHYMOSIS AND PARAPHYMOSIS.

By Dr. Bowlby, Tweed, Ontario, Canada.

Read at the Annual Meeting of the Ontario Veterinary Association, at Toronto, Ontario, Dec. 22, 1905.

At the midsummer meeting I, along with others, was selected to prepare something for the programme for the annual meeting, and, having signified my willingness, have made an endeavor to keep my word. I have often thought that a great deal of our benefit was lost through our trying to show our superiority over one another.

Now, I do not mean to deprecate the good opinion we are apt to hold of ourselves, but we too often select a subject that many of us are not conversant with, or is rarely met with, and make it bristle with peculiar professional terms, so that, however good the paper may be, the greater part of the benefit is lost to the masses.

Then, again, I fear that we are far too prone to advertise our successes rather than to admit our failures.

It is for these and other reasons now that I have selected the subjects of "Phymosis and Paraphymosis" for my paper; not because I have any special knowledge to impart, as it consists for the most part of a partial history of a few cases that have come under my observation; but because most every one must have met with it; and with which I have had little success in treatment.

As I understand the two diseases, phymosis consists of the constriction of the prepuce which prevents the protrusion or withdrawal of the penis; and paraphymosis of the enlarged penis itself, both troubles likely to be co-existent and frequently the one depending upon or exciting the other.

There is another and almost analogous trouble, viz.: a partially paralyzed condition of the penis, or rather its supporting muscles and ligaments, which I believe to be responsible for the majority of the cases of paraphymosis through allowing the penis to be gradually distended with blood by gravitation and

by partial erections and not having the muscular tenacity to repel the engorgment.

The penis being a dependent and necessarily a loosely suspended organ, favors this condition, and every ounce of blood that finds its way to the anterior part of the organ acts as a leverage on the already overtaxed suspendings at the posterior portion of it.

While injury may in some cases be the exciting cause, I believe that the injury frequently occurs after the other trouble is well seated, and many cases reported and appearing to us as those caused by injury are those in which the injury is secondary.

Just here I would like to venture the opinion, although I cannot support it with any written authority, that the enlargement of the prostate and probably Cowper's gland by either muscular or nervous pressure to be responsible for the semi-paralyzed condition of the penis. The trouble occurring most frequently in the aged animal and in the entire animal bears this out.

That there is but partial paralysis is advanced by the fact of there being in some cases partial erections and I have noticed in one almost perfect emissions.

I will now give a short synopsis of a few cases I have noticed.

No. I.—Aged gelding, well cared for and in good condition. Penis gradually protruded, with little swelling at first, but gradually increasing. Tried supports, cold applications, astringents, tonics, etc., but to no purpose. Finally amputated about six inches of the penis with good results, the swelling receding and the organ retracting.

No. II.—Three-year-old gelding. When brought to me the organ was protruding several inches and swollen, the sheath hard and hot and prepuce constricted. Eventually an abscess, which proved to be that of strangles, formed in the sheath, broke and the trouble gradually subsided under ordinary treatment.

No. III.—Five-year-old stallion. Trouble first noticed in serving a mare. The organ protruded about eight or ten inches, with only a little swelling. Supported by bandages and tried

to keep it in place by packing with batting, etc.; applied cold applications, astringent lotions, gave iron, strychnine, damiana, tonics and alteratives. Only a partial recovery effected.

No. IV.—Fourteen-year-old stallion. Trouble began in March, the organ protruding more and more and swelling increasing each day until it hung fully 24 inches and was five or six inches in diameter. Tried scarification along with other treatment, but to no avail. Had the animal shot.

No. V.—Imported stallion, 12 years old; trouble began in April with five or six inches of protrusion, but no swelling, and in about three weeks had reached a length of about ten inches with a little swelling, where it remained in spite of any treatment that at least three other veterinarians besides myself could devise. On the advice of one of them the horse was kept through the summer and worked some in the hope that with good treatment, regular exercise and the colder weather of the fall some benefit might be got. The cold weather had the opposite effect, for the organ became frostbitten and got gangrenous, elongated to more than 20 inches and badly swollen. In the following spring I was called in and amputated about fourteen inches. The horse made a good recovery and has been doing regular work for over two years.

No. VI.—Within the last few days I had another case in an imported stallion, 17 years old, and in good condition. Trouble of about ten days' standing when I saw it first. Protrusion of 20 inches or more and five or six inches through. Very little constitutional disturbance. On account of the age of the horse and the cold weather at the time, advised his destruction, and he was accordingly shot.

In none of these cases was there any injury at first; on some injury occurred after the elongation of the organ.

From my experience the practice of the old adage of an ounce of prevention being worth a pound of cure holds true. If the owners of stallions were more exacting in the selection of a groom and the groom were careful in the selection of mares and the time of breeding them, the stallion not expected to do too

much work in a given time, his general health better looked after and he not asked to travel too far, his virility might be prolonged and much of this trouble averted. My experience leads me to the conclusion that those cases resulting from injury or some immediate exciting cause recover, while those resulting from senile decay do the opposite. While the admission of almost uniform failure may not bring *me* much glory, yet it may possibly bring from some more fortunate practitioner some suggestions that may lead to happier results.

CANADA'S BAR AGAINST THE AMERICAN HOG.—The Dominion Minister of Agriculture (Hon. Mr. Fisher) is to be commended for the prompt action taken in regard to the importation of American hogs. The unrestrained privilege of slaughtering in bond of hogs drawn from the unlimited corn-fed supplies of the States, would incidentally have left farmers at the mercy of the packers, but probably the real basis of the Government's action is to preserve the hog stock of Canada from disease. For several years our efficient Veterinary Director-General (Dr. Rutherford) and staff have battled with hog cholera, which by herculean efforts and the expenditure of thousands of dollars for compensation has been got under control. Letting down the bars to the American hog lots, might mean any day the complete undoing of all this valuable work and the ruin of the industry for years to come. Only those thoroughly acquainted with the facts, or have suffered from visitations of swine disease, can realize the gravity of the menace. The new order just issued from Ottawa rescinds sections 45 to 52, inclusive, of the Animal Quarantine Regulations of 1904, and substitutes therefor a provision that all imported swine must be accompanied by a certificate signed by a veterinarian of the U. S. Bureau of Animal Industry, stating that neither swine plague nor hog cholera has existed within a radius of five miles of the premises in which they have been kept for six months preceding the date of shipment, but such swine shall be subjected to a quarantine of 30 days before being allowed to come in contact with Canadian animals. This stops importation for immediate slaughter and doubles the period of quarantine. Swine found to be suffering from contagious disease will be subject to slaughter without compensation.—(*Farmers' Advocate, Winnipeg, Manitoba.*)

THE SPAYING OF PREGNANT ANIMALS.

By Charles Frazier, B. S., M. D. V.,
Dean of the McKillip Veterinary College, Chicago, Illinois.

An article in the December Review concerning the spaying of a pregnant mare, by H. Fulstow, of Norfolk, Ohio, recalled to my mind some data on this subject which may be of interest to members of the profession.

During the years of 1904 and 1905 the writer, while connected with the School of Veterinary Science of the Washington State College, spayed and had under observation 863 head of range cattle. On account of the peculiar methods of handling he range cattle and the comparatively low value of old range cows, every animal which was to be sold out of the herd was spayed, regardless of age, condition or pregnancy. Of the cattle spayed 226 were past three years old and ranged in age from three to fifteen years and some possibly older; 67 of these were pregnant. On account of the conditions under which they were kept, no idea as to the exact length of pregnancy could be obtained.

As to the results of the spaying, the following notes, as taken from the records, will be of interest:

Four animals died as a result of the operation. Invariably these were fat cows spayed late in the season, and death was caused by complications arising in the laparotomy wound.

No pregnant cows died as a direct result of the operation.

Three cows gave birth to living calves within sixty hours after the operation, the calves and mothers both surviving.

Eleven cows aborted within sixty hours after the operation, the labor pains being brought on as a result of the shock accompanying the confining of the wild cows in the chute and the subsequent operation. So far as could be learned, nearly all cows which aborted were in an advanced stage of pregnancy. Three of these cows died later as a result of retention of the placental membranes and neglect of the owners.

Those cows which did not abort immediatly following the

operation, carried their calves to full term or about full term. As a whole, these calves were fully developed physically. A large percentage (about 85 per cent.) lived and thrived. The remainder lacked vitality and soon died, most of them without getting up. This may be the result of premature birth. The cows of this group almost invariably had more or less trouble in giving birth to the calves. Apparently the dystokia was caused by irregularity and weakness of the labor pains, which may have resulted from the disturbance to the nervous mechanism of the generative tract by the ovariotomy. There was also a great tendency towards retention of the afterbirth in these cows.

It was necessary to rely upon the owners of the herds for some of the above facts.

MORE INSPECTORS NEEDED FOR THE BUREAU OF ANIMAL INDUSTRY.—Congressmen are beginning to be besieged with demands for some quick legislation to facilitate shipment abroad of American meat. Secretary James Wilson, of the Department of Agriculture made the statement a few days ago that unless Congress speedily grants the emergency appropriation of $135 000 asked for by him to supply additional inspectors and microscopists, it is probable that more than $50,000,000 worth of orders for American pork and beef products placed by German dealers will go unfilled. On March 1, next, Germany will put into operation its new tariff law on products coming from the United States. There is now in that country a meat famine, and the German dealers in anticipation of the new tariff law are flooding the packing houses of this country with orders. This has resulted in such an immense business for the American packers that they are now embarrassed for lack of inspectors. This fact alone, states Secretary Wilson, has led him to call for the emergency appropriation and is no violation of the law of Congress that prohibits members of the Cabinet from contracting for services without the consent of Congress. Secretary Wilson declared that he had created no deficiency, but that on the contrary he was asking only for an emergency appropriation to change the conditions, which an enormously increased business of the last few months with no increase in the inspection force had created.—(*Washington Correspondence American Cultivator, Jan. 20.*)

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

FIXED THORACIC CHOKE—AN OPERATION MADE THOROUGHLY CLASSICAL BY USING A PHILLIPS "PERFECTED" TUBE, WITH A FEW SUGGESTIONS ABOUT CHOKES.

By J. M. PHILLIPS, D. V. S., St. Louis, Mo.

At the last meeting of the American Veterinary Medical Association, held at Cleveland, Ohio, Dr. J. H. Blattenburg, of Lima, Ohio, demonstrated an operation to reduce a fixed choke by hydraulic pressure.

The procedure was applying a mouth speculum and passing a piece of hose by way of the mouth into the œsophagus to (in this case) the imaginary obstruction. This done an incision was made through the skin directly over the œsophagus, about midway of the neck, the œsophagus loosened from its surrounding tissues and drawn through the incision made, and ligated, including the tubing that had previously been passed into it. A force pump was then attached to the tube and water pumped into the œsophagus, thereby dilating it and driving the obstruction into the stomach.

It was an operation that I judged at the time deserved more thought and attention than it seemed to attract. It appealed to me particularly, for I saw greater possibilities in the operation, as the following report of a case, with comments, will show.

Ten years have elapsed since I began the use of the Phillips Stomach Tube as a probang, and for liquefying oats and chaff chokes, and floating and siphoning out an impacted mass. Yet up to this time I had in every case been able to relieve my subjects without adopting any extraordinary means until the 20th of November last.

History: Brown horse, 12 years old, weight 1,200 lbs., belonging to Mr. J. H. T., a retail carpet dealer of this city. The horse had been boarded in a livery stable, and fed on oats and corn. He was considered a gluttonous eater, as the following history of a former choke, together with this one, will prove: On June 3d I was called to see him. I found no hay in the

manger, and no grain in the trough, but there was chaff and sawdust on the floor. He was evidently choked on this provender. It was a thoracic choke that was unusual, in that it caused great suffering, as evidenced by his squealing aloud and retching terribly, and the perspiration dripping from all over the body, with the œsophagus bulging full of saliva. With one assistant I passed the Phillips "Perfected" Tube per nasi to the offending mass without any extraordinary demonstration on the part of the patient. The saliva was siphoned out. The continuous-stream injection pump was then attached and placed into a pail of warm water and a few short strokes made with it, then detached quickly, allowing some of the diluted chaff to escape. I now put more pressure on the tube, and the pump attached again and pumped, and detached again. In the third attachment the water found easy access into the stomach. Now a few gallons of water were pumped into the stomach and the tube withdrawn, leaving the horse with the same good appetite that had gotten him into trouble.

His second attack, the most interesting and unusual, was on Nov. 20th. When I was called to see him at 5.30 A. M. he was not the suffering patient that he was on June 3d. Salivation profuse, retching some, œsophagus bulging with saliva and masticated food (oats and corn), a grand attempt of nature to produce the very effect that the operation later on did effect, *i. e.*, dilatation of the œsophagus and pressure on the offending matter. I inquired into the kind of food he had been eating and was told that it was corn on the cob and oats. On inspection I found no grain and but a few pieces of corn cobs left in the trough. With plenty of confidence born of past experiences, I proceeded as before, passing the tube through the left nostril into the œsophagus, siphoning out the saliva, which was mixed with masticated corn and oats, and injecting and siphoning until the return flow was clear. I then knew what the choke consisted of, a piece of corn cob he must have swallowed in his greed that had lodged near the cardiac orifice of the stomach.

As the tube was in position I attempted to dislodge the choke without the use of the stilet, giving several pounds pressure, but without relief. My next step was to withdraw the tube and insert the stilet (which makes a very stiff and light-weight probang), and again inserted the tube and applied about 20 to 25 lbs. pressure against the cob, without any apparent benefit. Thus far in the operation the horse made no resistence to the

treatment, excepting to retch whilst applying the pressure against the cob. I now knew that I had an exceptionally bad case, but decided to give him a little time, so had him tied to a brick wall until my round in the afternoon, when I expected to find it necessary to perform the emergency operation. Fearing a possible difficulty in the operation, I called in my brother, Dr. S. E. Phillips, to assist me.

I found my patient with the œsophagus again filled with saliva. I backed the horse into the stall and applied an H. & D. dental halter, tying the horse to both sides of the stall as for dentistry. Then applied an H. & D. mouth speculum and inserted a Phillips tube probang per orem. This procedure he objected to, breathing heavily and fighting, though he had not objected to its reaching the œsophagus per nasal chamber (I have always found that the horse objects to passing a probang through the mouth, and that it interferes more or less with the respirations). I pressed a possible 25 lbs. weight against the tube, holding the pressure on it for some time in the hope of tiring the excited muscles that were retaining the cob, but without results. I then removed the tube probang.

To divert one moment from the case in hand, to causes and effects in using a probang per orem.

Is it any wonder that a horse fights a probang passed through the mouth? (1.) A probang of any kind lifts the palate and an artificial opening is made so that air enters the trachea through the mouth, which is wholly unnatural in the horse. Air passing in and out through this unnatural channel draws the excessive secretions from the mouth and those that are in the œsophagus, which is generally mixed with the food, into the trachea. This saliva, when the palate is in position, is carried over the palate and is discharged through the nasal chambers. This same physiological action we particularly observe in cases of laryngitis and pharyngitis, when all or nearly all the food swallowed is returned through the nostrils. (2.) A probang passed through the mouth lies close down upon the epiglottis, pressing upon it and interfering with its easy movement. When a probang is passed through the mouth, the mouth must be opened to the *limit* to avoid injuring the instrument. A speculum must be used. A horse does not fight a speculum under ordinary circumstances, but the conditions under which it is now used, though it may save the probang, it may lose the horse. (3.) With this, then, we add the third reason why the horse fights the probang: A horse

cannot swallow with the mouth widely opened ; the attempt is weak and defective. With the mouth thus fixed, the probang is pushed into the distended œsophagus, displacing the saliva, which is often mixed with food, and forcing it out over the glottis and begins dropping into the trachea. Now the horse attempts to swallow, which if unrestricted would close the glottis, raise the larynx, constrict the pharynx, and allow its escape through the nose. But with his inability to swallow, great quantities often go pouring into the trachea, causing violent coughing and distress.

Since it is only in the act of swallowing that the epiglottis covers the glottis, protecting the trachea from the introduction of foreign substances, how important it is that the mouth be not gagged open, that the palate be left in its normal position, and the epiglottis unmolested in order to allow this now most important physiological action to take place when so much foreign substances are passing over the trachea.

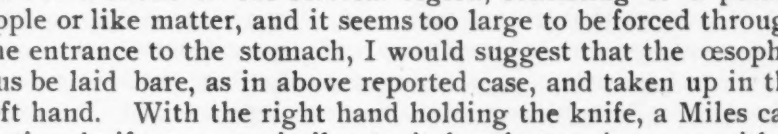
To resume, I prepared the field for the operation by shaving the hair and disinfecting the skin, and injecting cocaine along the line of incision, which was about six inches long, at the middle between the throat-latch and shoulder and fairly above the jugular vein. I inserted the tube through the left nostril to the cob, not using the stilet. The horse made no demonstration in this procedure. I looped the end of the tube in the halter band and fastened it. I made my incison and dissected the œsophagus with the enclosed tube from its loose connective tissues surrounding it, and brought it to the surface of the wound. I then wrapped a two and one-half inch cheesecloth bandage about four times around it and tied the ends tightly together, thereby binding the œsophagus tightly onto the tube, that no fluids pumped into the œsophagus below could pass the bandage. I now attached the force pump and pumped very lively for a dozen or more strokes, and detached the pump; some water returned. Not being positive that the work was completed, I again made the attachment and pumped the livelier and longer and was now satisfied that the cob had passed, since the water did not bulge the œsophagus while pumping. We pumped now about two gallons of water into the stomach, cut off the bandage and removed the tube, replaced the œsophagus, disinfected the wound, put four stitches into the upper half of the wound, laid a twist of medicated cotton into the wound from its upper to its lower extremities, which was to be removed the next day and not to be replaced

again. I left an antiseptic solution to be applied three or four times daily.

The operation was not attended with a loss of four drachms of blood. The horse made no demonstration excepting the one-fourth minute that the water was bulging the œsophagus, when he rapped against the stall twice with his right hind foot. All of the wound that was stitched healed by first intention. The stitches were all removed on the fourth and fifth days. The horse was ready for service on the tenth day.

A Few Suggestions about Chokes.—(1.) Drenches of oils are useless and often dangerous. There is no oil as slippery as the saliva that is now so abundantly secreted. The benefit in the drench is not in the oil as oil, it is in the excitement caused by the drenching that detracts the mind from the choke, giving the involuntary muscles no hindrance to resume their rhythm of movements that will carry an ordinary choke down. In drenching, some of the oil or drench finds its ways into the trachea, thereby causing a violent fit of coughing, and in this act we have the same effect produced on the mind as above mentioned, with the addition that in coughing there is often an expulsion of quantities of saliva and food from the engorged œsophagus, thereby relieving the choke in proportion to the amount of food dislodged. (2.) The belladonna drenches, on which so much stress is often given, are lost in the slimy mass it enters. Not enough of it comes in contact with the œsophageal mucous membrane (which is not an active absorbtive membrane) to have any appreciable effect on it in the length of time occupied in an ordinary choke. Some benefit might be gotten by using the hypodermic syringe injecting it around the œsophagus. (3.) To excite an animal in order to obtain the same physiological actions is more rational, without the danger attendant upon the drenchings. (4.) Ordinary chokes are most easily reached by a tube probang through the nasal chamber, entailing no danger to the animal, causing less distress, and leaving all of the organs used in the act of deglutition free to act in protecting the entrance to the lungs. (5.) A probang passed per orem should be the rarest necessity. (6.) In a thoracic choke an attempt should be made to dislodge it by the use of a probang. (7.) In case of failure to dislodge a thoracic choke, the operation of ligating the œsophagus and applying hydraulic pressure should be resorted to. This suggests the question of the possibility of rupturing the œsophagus in this operation. It is my opinion that there is but little danger, for the mucous membrane lining the

œsophagus is thick and tough, and the muscular coating quite heavy, making a tube of quite a degree of resistance. It is elastic enough also to allow of considerable dilatation. (8.) In case of a choke in the cervical region, consisting of a potato, apple or like matter, and it seems too large to be forced through the entrance to the stomach, I would suggest that the œsophagus be laid bare, as in above reported case, and taken up in the left hand. With the right hand holding the knife, a Miles castrating knife, or one similar to it but better, *i. e.*, one with a little longer point that stands at a more obtuse angle to the



handle. (This is a good knife for many operations, as deep shoulder abscesses, foot cases, etc.) The œsophagus is punctured at the inferior extremity of the foreign body. Now with the short, strong, active cutting end within the œsophagus, and no cutting edge in contact with the walls of the œsophagus you have the simplest proposition of slicing the potato or apple, or even breaking up as hard a substance as a cob. The disadvantages of trying to do the same work with the œsophagus *in situ* are, (1) the depth of the punctured wound through the skin, connective tissue and œsophagus makes it in a degree dangerous; (2) the œsophagus is so unstable in its position and lies in such loose connective tissue that it would be next to impossible to get the pressure necessary to cut a foreign substance without having the blade slip off and wounding the œsophagus. Whereas, in the operation of dislodging the œsophagus there will be no wounding of it excepting the mere puncture that will need no especial after-treatment. The treatment following would be as of a large surface wound as instanced in the above report.

INTESTINAL CALCULUS.

By FRED B. GAGE, Veterinarian Artillery Corps, U. S. A., Fort Meyer, Va.

On being called to the stable, early one Friday morning, I found a horse, about 9 years of age, suffering from what at first appeared to be a bad case of spasmodic colic; but upon making a careful examination I was convinced that his trouble was something much more serious than this form of colic. The increased "spasmodic rumbling" so common in this form of colic

was absent, and I could detect no peristalsis. On making a rectal examination I found the same empty, but could find nothing wrong.

While down he was in great pain and endeavored to keep on his back most of the time, which symptom caused me to suspect a strangulated hernia, but finding that this did not exist, my diagnosis was "obstruction of the bowels." As the animal was suffering great pain, morphine gr. iij was at once given, followed in about one-half hour by a ball containing aloes ℥ x, as he was a large horse.

He remained quiet under the morphine for about 2 or 3 hours, when the same symptoms reappeared. Rectal injections were now given, without any results. The morphine was repeated, and he was kept under this or chloral most of the time. During this time temperature and pulse were about normal.

Saturday, A. M.—Symptoms about the same as previous day, as regards temperature and pulse, animal is constantly lying down and getting up, almost always rolling on his back while down. Olei lini, qt. i., was now given and heat applied over abdomen, followed by opiates as needed, and strychnine gr. ½ three times a day.

Sunday, A. M.—Symptoms about same as previous day. Bowels have failed to act. Temperature 102°, pulse 60, strong and full. Animal, although he has not eaten anything, is very strong when walked around. Opiate treatment for pain; strychnine continued. At about 8 P. M., as the bowels had not acted, and as there seemed to be no prospect of them doing so, I administered eserine gr. ij., pilocarpine gr. iss. intratracheally without any result.

Monday, A. M.—Symptoms same as regards temperature, pulse, and pain. Animal now walks in a circle at times, and remains standing longer. Stimulant treatment alone now used; strychnine three times a day.

Tuesday A. M.—Animal now appears quite dull; walks in a circle most of the time and shows very little pain. Temperature about the same as previous day; pulse about 80, getting very feeble. The attendant was cautioned about being careless around him, as the animal would be liable to die at any moment, which he did at noon.

Post-mortem revealed a sand calculus, weighing about 2 pounds, and as large as a large cobble stone, firmly wedged in the floating colon at about 1 foot from its origin with the great colon. This calculus seemed to be composed mostly of sand

and was so hard that it could not be broken with an ordinary hammer. The physics had worked perfectly as far as this obstruction, and in my opinion forced it into the floating colon as far as it lodged. It must have formed gradually in the great colon, as this animal had been in the battery for about 4 years, and had never been on sick report before.

A CASE OF DOUBLE SCROTAL HERNIA.

By B. ROYER, V. S., Shawao, Wis.

Subject Percheron stallion colt, eight months old; shortly after birth an enlargement of the scrotum was noticed, which disappeared at about two months of age, only to return again one month later. No attention was paid to it until on December 1st, the colt was noticed to be ill. The following day the writer was called.

Symptoms.—Animal in considerable pain; had not partaken of any food for 24 hours; scrotum enlarged to the size of a man's head, very sensitive; sheath œdematous; pulse 70, temperature 102°, respiration 40, general condition of animal good. Diagnosed strangulated scrotal hernia. An examination per rectum revealed a hernia of both inguinal canals.

Treatment.—Placed animal in dorsal position, and attempted to reduce hernia by both external and internal manipulation, but failed; then decided to operate as follows: Produced anæsthesia by administering chloroform; used all aseptic precautions possible under the circumstances; made an incision in scrotum about one inch from median line about six inches in length down to hernial sac; divided very carefully the sac its entire length, which was about ten inches; was able then to reduce hernia without enlarging internal ring; applied a strong ligature around hernial sac and spermatic cord as close to inguinal ring as possible; then removed sac and testicle. The opposite side was operated on in like manner, but the hernia was not strangulated. The scrotum was packed with gauze, which was removed the following day. Up to this writing (Dec. 13) animal is doing well.

CONGENITAL DISPLACED TESTICLE OF DOG.

By MARK WHITE, M. D. V., Denver, Colorado.

English setter dog, nine years old, had history of disturbed sleep, uneasiness, pain, urine showing blood and mucus occasionally. An examination showed an enlargement the size of

a large English walnut, lying just superior to the penis and about five inches anterior to the testicular region, which showed firmness and pain upon pressure. There was a purulent discharge from the prepuce, which gave off a very offensive odor.

My diagnosis was "infected lymph-gland," having received its infection from the prepuce. An operation revealed the enlargement to be a testicle (which I removed), which was imprisoned in connective tissue. This displaced testicle was responsible for the catarrh of the prepuce and bladder, also the pain. When the dog attempted to urinate he suffered pressure-pain, followed by retention of the urine, and in course of time the holding of urine brought about catarrh of the bladder, which latter reached the sheath. The testicle had a tendency to enlarge, but was imprisoned by connective tissue, thereby producing preputeal pain, which was aggravated by sexual excitement.

Treatment was castration, washing out sheath with permanganate of potash solution and giving buchu internally for ten days. Good recovery.

EMBOLISM OF THE HEART.

By Dr. A. L. Haggerty, Coldwater, Mich.

On January 11, 1906, I was called to see a seven-year-old black gelding that had been acting very uneasy all day, and upon arriving found him walking uneasily around his stall, occasionally looking at his side and straining as if to urinate. The pulse was imperceptible, breathing a trifle fast, temperature normal, and on examination per rectum found the bladder only partly filled; I then gave morphine sulphate, gr iij, hypodermically and waited for half an hour; then gave fluid extract of opium, ℥i; fluid extract belladonna, ʒij; etheris nitrosi, ℥ij; chloroform, ʒi; aqua, Oi. The man then said we had better go to supper, which we did, and upon returning found the patient the same as before, the medicine having no effect. I then gave morphine sulphate, gr iij, and in about fifteen minutes he walked to the centre of the stall and seemed to have a convulsion by jumping into the air and stiffening out; he then stood with all four legs extended panting like a dog, and stood there for just one minute; then he seemed to go into another convulsion, and this time fell dead.

I told the farmer that I did not know the exact cause of death, but would hold a post-mortem, and accordingly had him

sent to the rendering works, where I opened him and found all the organs of the abdominal cavity in a fine healthy condition, and lungs also; but upon opening the heart found the right side healthy, but the walls of the left were contracted, and upon opening found a large fibrinous clot protruding from the left ventricle into the common aorta and completely stopping the circulation. It was loose. This I call a heart embolism. Would like to hear from veterinarians who have had anything similar.

AN OUTBREAK OF ANTHRAX.

By R. W. GANNETT, D. V. M., Newark, N. Y.

I post-mortemed a cow July 29, that had suddenly died. Nothing wrong was noticed at 2.30 P. M., but three hours later she was found dead. Owner stated that another had suddenly died on July 23.

The principal lesions were: liver enlarged and softened, small intestines hæmorrhagic, kidneys petechiated, both lungs hæmorrhagic, trachea and bronchi filled with a frothy exudate, mucous membranes of trachea very dark. *Spleen not enlarged.*

The condition of the internal organs and the two sudden deaths indicated an infectious disease. Smears were prepared from the spleen. They were heated over a gas jet, stained with carbol fuchsin and examined with an oil immersion objective. Each preparation showed the large rod-shaped, square-ended bacteria of anthrax in long chains. Portions of organs were packed in ice and sent to the New York State Veterinary College, where pure cultures of *Bacterium anthracis* were obtained. Another cow and a horse died July 30th. The remaining four cows and three horses on the farm were unaffected. This disease, occurring in an uninfected locality, caused considerable excitement. An attempt was made to trace its origin. It was found that, during July four other cows had suddenly died on different farms, all within a radius of one mile. One carcass was taken six miles away and fed to a herd of swine, which soon became infected with a disease that was subsequently diagnosed as anthrax by Dr. W. H. Salisbury, of Clifton Springs, N. Y. None of the dead animals were deeply buried. A farmer who skinned two dead cows suffered for two months from malignant pustule, but recovered. An old grey horse kept in the village one and one-half miles from any previous case of anthrax became sick Aug. 4, was treated five days for enteritis, but died. Post-mortem

and microscopical examination were immediately made, which led to a positive diagnosis of anthrax. After the first diagnosis all animals dead of the disease were deeply buried. Everything in any way connected with the sick or dead animals was disinfected or burned. There was no further spread of the disease. No vaccine nor anti-toxin were used. The sudden arrest of the outbreak was apparently due to proper disposal of dead animals and careful disinfection.

SHEEP SCAB AND CATTLE MANGE. — According to the last annual report of the Bureau of Animal Industry of the Department of Agriculture, in the work of eradicating sheep scab and cattle mange in the West during the fiscal year ended June 30, 1905, there were 53,680,786 inspections and 16,873,659 drippings of sheep, and 14,085,267 inspections and 563,394 drippings of cattle.

TO RESUSCITATE THE ASPHYXIATED.—Rythmical traction of the tongue has long been one of the most effective means of reviving a person who has been drowned. Dr. Laborde, who has carried on extensive investigation on the effect of tongue traction as a means of resuscitation, maintains that often, although the organism has apparently ceased to live externally, it lives internally. That is to say, life is still latent, and while there is latent life there is a hope of saving a drowned or asphyxiated person. The function which it is most necessary to revive is the respiratory. Experimenting upon dogs, Dr. Laborde found that two or three hours after apparent death had set in it was sometimes possible to secure resuscitation. A vigorous half bulldog weighing thirty-five pounds was chloroformed to such an extent that respiration had entirely ceased. After a quarter of an hour's traction of the tongue the animal came to. The experiment was tried again until complete asphyxiation had occurred, and traction was not resorted to till five minutes later. The dog, who has appropriately been named Lazarus, this time appeared to be dead. One hour and two hours of traction followed, with no result, but after another half hour a respiratory cough showed that life was present. The dog soon revived. It occurred to Dr. Laborde that it would be a good idea to substitute a mechanical device for the cloth covered hand. The first apparatus made was driven by clockwork. The more improved apparatus now used is operated by an electric motor. By means of this instrument it is possible to subject the tongue to continuous traction for three hours.

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By ADOLPH EICHHORN, D. V. S., Bureau of Animal Industry, Great Bend, Kansas.

STRENGTHENING THE VIRULENCE OF THE HUMAN TUBERCLE BACILLI TO THAT OF THE BOVINE TUBERCLE BACILLI [*Dr. A. De Jong, Leiden*].—Only few experiments have been conducted to raise the virulence of human tubercle bacilli. That such a procedure is possible, was proved by the experiments of the author. In 1900, a goat was inoculated intravenously with a thoroughly mixed suspension of human-sputum tubercle bacilli. The animal became sick, with fever. After 46 days the goat was more lively, ceased to cough, and an increase in weight was noticeable. A swelling formed at the place of injection due to transgression of tubercle bacilli into the connective tissue, which swelling remained unchanged. Four months after the injection the animal was subjected to a tuberculin test, which resulted in a stormy reaction. Further symptoms were not observed in the following three years. After this time, the goat again became ill (discharge of pus from the swelling at the place of inoculation, elevation in temperature, cough) and died 145 days after these symptoms appeared. Autopsy: At the place of inoculation two caseous herds, the retro-pharyngeal lymph gland tuberculous, also the right brachial, the latter badly affected. The abdominal cavity showed no abnormality, with the exception of one calcareous herd in the portal lymph gland. In the lungs extensive tubercular changes, with formations of caverns, on the mucous membranes of the trachea tubercular ulcerations. With the same human tubercular material, at the same time with the goat, two cattle were inoculated; on them, however, it had very little effect, and after slaughter they revealed only very slight tubercular changes. From this fact, also from the slow progress of the disease in the goat, it is apparent that the used tubercle bacilli possessed only a slight virulence. Now, to prove whether any, and what change the disease producer has suffered during its three years' residence in the body of the goat, a guinea-pig was inoculated with material from the brachial gland; the test animal succumbed 84 days after the infection. From this animal a cattle-blood serum culture was made, and another goat inoculated on the

right side of the neck subcutaneously, with a quantity of 0.015 gm. of this culture. This animal died after 34 days, from a very severe general tuberculosis, with a loss in weight of 6 kg. The bacilli, therefore, had an increased virulence in this goat. With the material of the mediastinal glands of this goat, a two-days'-old calf was inoculated on the side of the neck, which resulted in the death of the animal in 19 days. A mixed infection was proved in this case, of tubercle and necrosis bacilli. Notwithstanding this, the tubercular changes were very extensive, herds were present in the retropharyngeal, mesenteric, in the right brachial, glands, kidneys, spleen and lungs. From this calf, the author, then further inoculated a guinea-pig (death in 43 days), and from the tubercular material an artificial growth was made which was again inoculated in a three-months'-old calf subcutaneously (35 mg. of the culture). After 25 days this animal also died with manifestations which, *according to Koch and Schütz, could only be produced by bovine tubercle bacilli.* The autopsy was as follows: Tuberculosis of almost all lymph glands, the liver, spleen, kidneys, miliary tuberculosis of the lungs, and the pleura. According to Koch's apprehension, this calf died of bovine tuberculosis. But as it was shown, this was not the case, as the animal succumbed on account of an infection through bacilli which were of human origin, and which could not even induce in cattle a noteworthy affection through intravenous inoculations. The virulence therefore in this case was increased by a passage through two goats, one calf, and two guinea-pigs. A second line of experiments was made in such a way that from the goat which died after 3½ years by a passage of the bacilli through a guinea-pig, a calf was inoculated subcutaneously. After 116 days the animal was destroyed. The autopsy revealed progressive tuberculosis, however, without being considerably extended (herds in the right brachial, inferior cervical and mediastinal glands). With the brachial gland of this calf a guinea-pig was infected, from which a culture was made, and with this a 121-days-old calf inoculated. The same died after 30 days, and on autopsy manifested the same lesions as the last one related in the former experiments, miliary tuberculosis being present on the pleura. In this case also the original slightly virulent tubercle bacilli of human tuberculosis had the same results, which, according to Koch, could only be attributed to the producer of bovine tuberculosis. The author concludes from his experiments that there is no difference in the species or characteristics

between the human and bovine tubercle bacilli, and that Koch's theory is wrong. A human bacillus of slight virulence can be strengthened by passage through animals to a virulence which, the bovine tubercle bacillus possesses.—(*Zentralbl. f. Baktereol.*)

TWO REPORTS ON HORSE-SICKNESS [*Prof. Dr. R. Koch*].—In his investigations on horse-sickness in Africa, Koch aimed first of all to obtain an improved serum-immunizing method against this dreaded malady. He succeeded in susceptible animals to produce a slight attack of the disease, with a combination of virus and serum, from which they recover and then remain immune against the disease. Further experiments proved that only by the most particular execution of all the details of the method can a positive immunity be produced, and on account of this reason Koch, in a supplement to his report, gives a careful description on the preparation of the virus and serum. The immunization extends through seven acts, and requires about 10–11 weeks; on the other hand, Koch hopes to be successful in simplifying this method by reducing it to 4–6 weeks.—(*Arch. f. Wissensch. u. Thierh.*)

TREATMENT OF INDIGESTION IN CATTLE WITH BARIUM CHLORIDE [*Dr. Kreutzer*].—In the "common" indigestion of cattle and in acute cases of tympanites, the author achieved brilliant results with barium chloride; 12–18 gm. of this remedy administered internally in two doses, 3–4 hours apart, resulted as a rule, in a case of indigestion, in from 1 to 2 hours' time in the evacuation of the bowels, and rapid returning of rumination. Acute tympanites is eliminated in a shorter time by the administration of barium chloride than with any other remedy in from 3–10 minutes. The most dangerously appearing tympanites can be removed with absolute certainty! [? A. E.] Positively they are phenomenal results, and it deserves a careful trial.—(*Wochensch. f. Thierh. u. Vichz.*)

HÆMOGLOBINÆMIA AND TETANUS IN A HORSE [*Sigle*].—A 2½-year-old mare, being kept in the stable for some time, was taken out to plow; a sharp east wind prevailed at the time. In less than half an hour, the typical symptoms of azoturia appeared, the urine being almost black in color. On the following morning the mare showed pronounced symptoms of tetanus; complete trismus; the ears were held stiff; dilatation of the nasal openings, projection of the membrana nictitans, all muscles hard as a board, etc. The urine was the same as on the previous day. The animal died. A similar case was observed by Zurn, also one by Friedberger-Fröhner.—(*Wochensch. f. Thierh.*)

INJURIES OF MEN BY RABID AND SUSPECTED RABID DOGS.—The Veterinary Report of the official veterinarians of Prussia contains statistics on injuries of men received by rabid or suspected dogs, in the year of 1903, which is as follows: 307 persons were bitten, of which 211 were male and 96 female. The injuries were inflicted by 194 animals—namely, 183 dogs, 6 cats, 2 cows, 1 horse, 1 hog and 1 sheep. Of the 194 animals, 14 escaped and could not be examined; of the other 180, 27 were found suspicious. To the Institution of Infectious Diseases at Berlin, 153 brains were sent for examination, of which 140 proved the infection of rabies. Of the 307 injured, 281 received the preventive treatment. This amounts to 92.0 per cent. The comparing figures of previous years were: 1898, 29.0 per cent.; 1899, 80.5 per cent.; 1900, 82.3 per cent.; 1901, 78.1 per cent.; 1902, 90.8 per cent—the populace apparently having more and more faith in the preventive treatment. Of 26 persons who did not undergo the preventive treatment, 17 received some other kind of medical aid, while 9 remained without any treatment. Of all injured 7 became affected with lyssa, 6 of them died and 1 recovered. Of the 7, 5 received the preventive treatment, 1 received some other medical aid, while 1 was without treatment. Those affected with lyssa received the following injuries: 1 on the neck, 2 on the forearm, 3 on fingers, 1 on the heel. The 4 injured who died in spite of the preventive inoculation, death came on the 38th, 56th, 110th and 135th day respectively after the biting.—*(Deutch. Thier. Wochenschr.)*

HOW MANY SLAUGHTERED ANIMALS CAN A VETERINARIAN EXAMINE DAILY, IN ACCORDANCE WITH THE REGULATIONS? [*Kumbert Muller*].—As the Government meat inspection law of Germany prescribes a uniform method for the examination of slaughtered animals, the maximum work of the inspector can be now easier established than formerly. According to Muller, for the inspection of the different animals, the following time is required: 7 minutes for cattle (horse), 3 for hogs, 1½ for calf, 1½ for sheep; these relate to healthy animals. Considering the daily employment of an abattoir veterinarian, M. is of the opinion that it should not exceed six hours, in which he is to be allowed two half-hour rests. Taking as a base the above numbers one veterinarian could inspect in one day 52 cattle (horses) or 120 hogs, or 240 calves or sheep. Should animals be found diseased, especially affected with tuberculosis, and if the inspecting veterinarian is required to pass immediately on them, the number is lessened correspondingly. [How many inspectors

would it require in our large abattoirs should the inspectors devote the above time for the inspections?—*A. E.*]

GERMAN REVIEW.

By J. P. O'Leary, D. V. S., Inspector Bureau of Animal Industry, Buffalo, N. Y.

Foreign Body in the Œsophagus of the Horse [*Tierarzt M. Jensen*].—I was requested to treat a middle-sized five-year-old Jutland mare which frequently vomited after eating. As the animal had earlier shown similar symptoms, which disappeared without interference and did not require professional aid, the author did not consider the case serious. He examined the œsophagus the whole length of the neck, but found nothing that could obstruct the food in its passage to the stomach. The mare appeared perfectly normal apart from the occasional vomiting. I decided, with the consent of the owner, to watch the progress of the disease for a day at least. Next day the animal showed alarming symptoms and drastic measures were urgently necessary. The mare was placed in position and the probang pushed into the œsophagus. (The probang used in this case was 6½ Dänish feet in length.) The instrument met with resistance as it had passed in a distance of about 6 feet. I believed as a result of the obstruction that the forward end of the catheter had arrived in the stomach and that the perceptible resistance then present was dependent upon the food found in the stomach. We withdrew the probang and explained to the owner that there was no particular obstruction to be found in the œsophagus. However, it was possible that a needle or some similar pointed object was firmly lodged in the mucous membrane of that organ, and therefore that was the cause of the vomiting. However, it was desirable that a second veterinarian should be called in consultation. This was done; unfortunately, however, the second expert could not help. The mare died a few days afterwards, and on post-mortem there was found beside the appearance of a mechanical pneumonia a hay ball about the size of a duck egg solidly wedged in the œsophagus close to the opening in the diaphragm. According to this I erred in the diagnosis. He claimed this mistake would not have happened if the probang used by him had been somewhat longer (at least 7 Dänish feet). Whether the horse could have been saved with such a probang remains a question, because the hay ball was wedged into the œsophagus in the most extra-

ordinary manner.—(*Maanodsokr. f. Dyrlaeger. 17 Band, 2, Heft; Ber. Tier. Wochen.*)

CONCERNING THE IMMUNIZATION OF CATTLE AGAINST TUBERCULOSIS [*Koch, Schütz, Newfeld and Meiszner*].—After a careful compilation of literature on the subject and a sharp criticism especially of the published results of von Behring and his collaborators relating to the methods of immunization against bovine tuberculosis, the authors set forth the results of their investigations. The experiments may be divided into two groups; the first includes 18 calves, about 6 months old, which were previously treated by a double intravenous injection with various sources of human tuberculosis and later were tested with a highly virulent miliary tubercle culture for their immunity. The calves received with the first preparatory treatment, some 1 cg., some 2 cg., suspended in 5 c.cm. and 10 c.cm. of an 0.8% normal salt solution. In the second treatment all received an injection of 5 cg. in the veins. All the animals were subjected to the test for their immunity by an injection of 2 cg. of the highly virulent miliary tubercle culture XIV. In the case of calves No. 1 to 6 an interval of 40 days elapsed between the last preparatory treatment and the miliary tubercle injection. This interval was extended to 3 months in the case of calves No. 7 to 18, because the authors were of opinion that immunity takes place very slowly, therefore the control inoculation should be delayed as long as possible. Out of 4 calves prepared almost in the same way, one calf became severely infected after the control injection and these had received at that time only 1 cg. of the human tubercle bacilli culture in the first preparatory injection. It seems, according to the view of the authors, that the quantity of the culture used for the first injection had especial influence on the rapidity of the appearance of immunity. The second group of experiments included 3 calves. Since the 2nd injection of the preparatory treatment had caused only a slight reaction, the authors injected 3 calves with a 3 cg., 2 cg. and 1 cg. of human tubercle bacilli from an attenuated culture once into the veins. Beside the practical advantage which the single injection offered against the double, the authors were guided by the fact that in the case of asses and goats immunity was produced by one injection only. Post-mortem revealed the 3 calves completely free from tuberculosis. The authors received similar results from a single preparatory treatment of 2 calves with an attenuated variety of miliary bacilli which by double application had already immunized a calf.

One of these experimental calves still lives and is in excellent condition; the other upon post-mortem was free from tuberculosis. The authors draw the following conclusions from their experiments: They have successfully immunized cattle against highly virulent bacilli of miliary tuberculosis by a single injection of from 1 to 3 cg. of the bacilli of human tuberculosis or an attenuated bacilli of miliary tuberculosis. The bacilli used for this purpose and those cultivated in glycerine bouillon must have attained an age of from 30 to 40 days. They are dried between filter paper and the required amount mixed with 10 c.cm. physiological salt solution and injected into the vein. Complete immunity of the inoculated calves appears three months after the inoculation. The authors hold upon the strength of the described experiments that the problem of the immunization of cattle against miliary tuberculosis is solved, in so far as we know now the conditions under which we are able to immunize laboratory experimental animals with great certainty against considerable quantities of the most virulent materials, and as we can say in comparison with other diseases, just so with tuberculosis, of which it was doubted up to within a few years that a genuine immunity could be obtained and that such an immunity can be procured by a comparatively simple method with a high degree of certainty. The application will determine the practibility of the laboratory experiments.—(*Archiv für Wissen. und prak. Tierhelkunde, 31 Bd., Heft 6.*)

A Case of Intestinal Volvulus Caused by Fæcal Accumulation and its Cure Through the Use of Arecolin [*Paul Knoll, Dresden*].—A horse was brought to the author for treatment which, according to the statement of the owner, was restless for a long time and continually pawed in the stall. The owner supposed it was a case of colic. The examination resulted as follows: Patient, a dark brown gelding, about 20 years old, pulse 58, temperature 38.7° C., respiration 16; auscultation of the abdomen gave no indication of intestinal peristalsis; on the contrary, not a murmur was heard. In the stall the patient laid down suddenly and at times supported himself on his knees, whilst at the same time he stood on his hind feet. He suspected intestinal volvulus, and therefore undertook a rectal examination. The hand being introduced into the rectum a distance of 50 cm., nothing abnormal was discovered, whilst at a distance of 60 cm. from the anus the hand could not be pushed any further, since further passage was obstructed by a plainly-felt twist. He had attained so far the certainty that he had to

deal with a case of volvulus, and called the attention of the owner to the seriousness of the situation. Treatment consisted of rectal injections of 1½ bucketfuls of soap suds at first, which was shortly afterward rejected by the bowel and passed out without any fæcal matter present. Next he injected arecolin 0.16 in one dose. A few minutes afterwards the horse began to salivate intensely and in about 15 minutes a lively peristalsis set in. At the expiration of half an hour as he was in the act of giving a second rectal injection he was astonished to find the rectum completely filled with fæces. The effect of the strong dose of arecolin was immediate. After the lapse of an hour the completely exhausted horse, on which the already typical cold flank perspiration had broken out, was well again.—(*Berliner Tierarztliche Wochenschrift.*)

A CASE OF UVEITIS MALLEOTICA [*J. De Haan*].—On account of the extreme rarity of glandered affections of the eyes, the following is well worthy of notice. In the case of a horse suspected of glanders there had formed an eye-disease resembling moonblindness. The cornea appeared cloudy, and there had formed an exudate on the floor of the anterior chamber. After destruction of the animal a saggital incision was made through the eye and on the posterior surface of the iris were seen several grayish-yellow nodules about the size of a pin-head in the midst of a grayish-yellow coating. Microscopical examination showed a number of smaller nodules over the whole of the uveal tract and a small celled infiltration. Bacteriological examination, inoculations made on suitable media from the exudate proved the presence of glanders bacilli in pure culture. Presumably the question is one concerning a metastatic form of the disease.—(*Fortschr. d. Vet.-Hyg., 3 Jahrg. Heft. 3.)*

PARTURITION FEVER BEFORE CALVING [*Jegorow*].—The author recites the case of a cow which immediately became sick. No indication of parturition being present, although the owner declared the cow should have calved that morning. The animal lay motionless; temperature 36.8 C.; breathing difficult; rumination suspended; the head inclined to one side; the pupil did not react to light; in a word, the animal was comatose; the natural excretions lacking. On the other hand, there was an abundant secretion of milk. Treatment: Air infusions into the udder, likewise massage, clysters and rubbing of the body with turpentine and oil. Nine hours after this treatment the cow stood on her feet and next day gave birth to a healthy calf.—(*Veterin. Feld. Westrick.*)

ENGLISH REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

ILIAC THROMBOSIS [*R. Rutherford, F. R. C. V. S.*].—After two or three days of rest, a horse being put to light work is suddenly taken wrong behind; he is put in the stable, lays down, and when made to get up is unable to stand and is placed in slings. Seen by the author, he found the animal standing on three legs, ready to fall when the slings are taken off; his pulse is thready, about 100, ears cold. Both hind quarters are cold way down to the feet. The penis is paralyzed and hangs out of the sheath. Examination per rectum reveals embolism of the iliac arteries. The horse died in a few hours. "Post-mortem showed complete plugging of the external and internal iliacs on the near side and of the internal on the off. A probable cause of the thrombus was a tumor, some three or four inches long, not unlike a good sized kidney potato, which was in close contact with the aorta and iliac underneath them—*i. e.*, with the surface of the tumor towards the pelvis. What this tumor was was not made out, but the right kidney, which was 31 lbs. in weight, was apparently similarly affected. Another like deposit was in the middle of the right lung." Besides these interesting lesions, the rapid fatal termination of the case and mode of manifestation of the trouble were unusual.—(*Veterinary Record, Sept. 9, 1905.*)

COMPLETE TRANSVERSE RUPTURE OF THE SMALL INTESTINE IN THE HORSE [*W. E. Schofield, Lieut. A. V. D.*].—A horse of rather sluggish disposition is taken with slight colicky pains about an hour after light work. An aloetic ball is given. The next day his pulse has gone to 62 and his membranes are slightly injected. Otherwise no change. Passed no fæces, but urinated once or twice. Rectal exploration is negative. The day following the temperature is 102°, the pulse 75. The horse shows slight restlessness. Opiates, mustard on the abdomen, and clysters are ordered. The day after his pulse is 82, with double beat. No fæces. On that day in the afternoon he started trembling violently, and this lasted for an hour. At 3.30 of that afternoon his temperature goes up to 105.2°, the pulse becomes imperceptible. Death at 9 P.M. *Post-mortem examination.*—A large clot of blood is found attached to a part of the small intestine; also numerous solid lumps of

ingesta, some free and others attached to the clot. The abdominal cavity contains a large quantity of fluid, mixed with blood and ingesta. There is general peritonitis. After removing the intestines and, in making a careful examination, a piece of the ileum, about four feet in length, is fouud intensely inflamed and gorged with blood, and in the centre of this the bowel is observed completely ruptured and the mesentery slightly torn. The point of rupture was seven feet from the ileo-cæcal valve.—(*Veterinary Record, Sept. 16, 1905.*)

DISTEMPER IN DOGS [*Thomas Parker, M. R. C. V. S.*].—The author, in September, 1904, inoculated 60 puppies against distemper with the first and second vaccine of Physalix. All the puppies did well, and, with one single exception, the experiments appeared a success. "But," says Mr. Parker, "after taking the precautions of choosing strong healthy puppies, isolation for two or three weeks, inoculating when in strong robust health, using prescribed precautions after the first vaccine and also after the second, after vaccinal period giving plenty of good food, fresh air and exercise, isolated on farms, bringing into new kennels when about six to seven months old, I was much surprised to find that, even although the puppies were well during and after inoculations, the mortality was greater among the 60 puppies inoculated than a similar number of uninoculated puppies isolated under similar conditions, the results in figures being 42 contracted distemper, 14 remained unaffected, 8 recovered, 22 died, 19 destroyed." The conclusion of the majority of the committee which made the experiments some time ago, seems to be the correct one.—(*Veterinary Record, Sept. 16, 1905.*)

A MISTAKE IN DIAGNOSIS [λ].—A fox terrier, about 12 years old, had been in the habit of fetching and carrying stones for many years. He had been known to swallow some. One day he was observed by several parties to swallow several. Although he never had seemed to be troubled from this habit, the day after he had been seen swallowing several he was taken very ill, frequently vomiting bile-stained mucus, having diarrhœa of a reddish color and refusing all food, but drinking water in large quantity. Seen by the author, the day after he was taken sick, having heard the history and the repeated assertion that the dog had swallowed stones, a diagnosis of obstruction of the bowels was made by adding to the history the fact that there had been no defecation for 48 hours, and that slight pressure in the umbilical and hypogastric regions caused

much pain, and that in the epigastric region hard bodies could be felt, which were supposed to be stones. Laparotomy was advised and performed immediately, with all antiseptic precautions, but no stones were present. A kind of bunch of grapes was felt when the fingers entered the abdominal cavity, and that was the liver, which was hugely enlarged, so much so that it filled the hypogastric region. The dog having died at this time of the operation, the post-mortem was made at once. The bowels were empty, the liver enlarged, engorged with blood, and "knobby" on its outer surface. Sections showed large venous spaces. There was a tumor in the stomach, probably a mucoid fibroma. There was an old adhesion between the cæcum and the duodenum; this last showed scars of old ulcers. There were also lesions of the valves of the heart and pericarditis. Both kidneys were cirrhotic; prostates enlarged. The case proved to be a good example of how easy one can make a wrong diagnosis.—(*Veterinary Record, Sept. 23, 1905.*)

A Dentigerous Cyst in the Temporal Bone of the Horse [*W. W. Grasby, M. R. C. V. S.*].—History of a mare, four years old, which has a small discharging fistula at the base of the left ear. A probe inserted in it went down some six inches. A large abscess soon formed, the animal was in great pain, especially when the jaw was moved as in feeding. The abscess was freely opened and two mal-formed and molar-shaped odontomata removed. They were fixed in the petrous temporal region and were extracted with forceps. The animal was of a somewhat irritable temper before the operation, but since has been perfectly quiet. Recovery was complete.—(*Veterinary Journal, Sept., 1905.*)

A Case of Parturient Apoplexy Treated with Oxygen—Recovery after a Relapse [*S. E. Holman, M. R. C. V. S.*]. —A pure-bred Jersey cow had parturient apoplexy and was treated with oxygen, manifesting the usual rapid improvement. Unfortunately, through neglect on the part of the assistant to carry out the treatment as directed, the animal, which had been standing and eating for 24 hours, had a relapse. However, with reinflating of the udder, inhalation of oxygen and caffeine, the animal was once more revived and saved. The inhalation of oxygen was resorted to as an experiment, which the author thinks might be omitted.—(*Veterinary Record, Sept. 23, 1905.*)

Two Curious Accidents.—Relating to the death of two animals—one is a mare which had fallen with the angles of her jaws on the edge of the manger and got cast, her head being se-

cured and attached with the chain of the halter, passing over her head, behind the ears and finally over the peak of the nostrils. The trachea was thus tightly pressed on the top edge of the manger and death occurred by strangulation. In the other case, the animal, while crib-biting, had put its head over the top bar of her stall and caught hold of the second bar below with its teeth. At that time he probably slipped down in his stall, was unable to regain his feet and was also choked to death. —(*Veterinary Record, Sept. 23, 1905.*)

Two Cases of Poisoning by Datura Stramonium in the Horse [*Capt. H. A. Sullivan, A. V. D.*].—Both cases were treated with solution of permanganate of potassium every three hours, followed by suitable doses of sulphate of magnesia, turpentine liniment on the loins and extremities. The characteristic symptoms observed were: paralysis of the salivary nerves, causing dryness of the mouth; paralysis of the third pair of cranial nerves, causing dilatation of the pupil and imperfect vision; paralysis of the inhibitory fibres of the par vagus in the heart, leading to rapid action of the heart.—(*Veterinary Record, Sept. 23, 1905.*)

An Abdominal Wound [*W. H. Williamson, M. R. C.V.S.*].—A punctured wound, about 1½ inches long, with a yard of mesentery protruding. The case was seen at night and only a tallow candle at hand to operate. The mesentery was cut off, the remainder pushed back. As the peritoneal wound could not be found, two strong silk sutures were applied through the skin and underlying tissues. Dressing of the wound with chinosol solution. Recovery in a week.—(*Veterinary Record, Sept. 23, 1905.*)

Paraplegia Due to Fæcal Obstructions [*Capt. H. A. Sullivan, A. V. D.*].—Supposed to be due to hardened fæcal obstruction, this paraplegia was treated by oils, after 24 hours, and followed later on by salicylate of eserine gr. ss. After its effect the animals showed improvement and recovered in a week.—(*Veterinary Record, Sept. 23, 1905.*)

Eserine and Stimulants in the Treatment of Colic [*G. C. Lowe, M. R. C. V. S.*].—Two cases are recorded. One of flatulent colic, relieved with sulph. of eserine gr. ij. and aromatic spirits of ammonia ℥ ijss. The other was one of impaction of the colon, with a temperature of 102–103 F. The treatment consisted in aromatic spirits of ammonia ℥ ijss., tincture of nux vomica, ℥ i, given in a draught after eserine gr. ij. had been injected hypodermically. The draught was

renewed during the day.—*(Veterinary Journal, Sept., 1905.)*

PERITYPHLITIS IN THE DOG [*E. H. Livesey, M. R. C. V. S.*].—Half-bred collie, 15 years and 3 months old, had had previous attacks of gastritis. One night has violent pain, panting and looking uneasy; cried out loud when touched; partially paralyzed. Breathing almost entirely pectoral, belly drawn up, tense and painful. Bladder normal, no obstruction in the rectum. In hypogastric region a lump about the size of a pigeon's egg is felt. Diagnosis, intestinal obstruction, probably at the ileo-cæcal valve. After preparation, operation is performed. When the abdomen is opened the intestines are found empty except at the ileo-cæcal valve, where it was much distended with impacted ingesta. Cæcum also distended with fæcal concretions. These were broken down, and by gentle pressure moved down the entire intestinal tract. The bowels were not opened. The wound was stitched with two rows of sutures. The recovery progressed nicely. Six weeks after the operation a bone was given to the dog; he was quite sick and suffered by it, but recovered ultimately, and now he is enjoying good health.—*(Veterinary Journal, Sept., 1905.)*

DR. T. EARLE BUDD, of Orange, New Jersey, has been elected President of the Orange Board of Education. Good for Dr. Budd.

OUTDOOR TREATMENT FOR TUBERCULOSIS.—As our readers are aware, last summer the herd of cattle at the Experimental Farm, Nappan, N. S., was found to be tuberculous. So as to make perfectly sure of the exact condition of affairs, the animals were held for a second test. It has now been found out that, out of seventy head, about sixty are tuberculous. It has been decided to ascertain whether there is any possibility of cure for animals from this disease, and to have the same system tried as is now thought to be successfully applied to human beings. With this object in view, some forty head are picked out—about ten healthy and thirty diseased—to be kept this winter as much as possible in the open air, with only an open shed for shelter; to be fed reasonably well and to be watched carefully and tested from time to time later on, to see what the results may be. The rest of the animals are being destroyed. It is hoped that this course of treatment will result in the disclosure of information that will be of very great value to stockmen, not only in Canada, but throughout the world.—*(Farmers' Advocate, Winnipeg, Manitoba.)*

SURGICAL ITEMS.

By Drs. Louis A. and Edward Merillat, Chicago, Ill.

PRACTICAL ASEPSIS.

The use of the term "practical asepsis" is made necessary in veterinary surgery because of the existence of certain inimical condition which cannot be ignored. Everything more or less closely identified with the veterinary surgical operation is abominably filthy (germ ridden). The surgeon figuratively speaking must actually "wade through germs." The magnitude of the precautions necessary to effectually cope with this ever-existing situation is often out of proportion to the importance of the whole proposition. The ever-existing filth and the relatively small economic importance of each surgical procedure necessitate the application of a "practical asepsis" that will create the best possible conditions "under the circumstances." It is important to learn and to adopt the best method of meeting this adverse situation. To create an aseptic, or at least a safe condition in a badly septic environment is often possible, but the same universal success as in human surgery cannot be expected. Asepsis depends not only upon observing every standard detail, but also upon the general cleanliness of the surroundings. When everything is dirty around an operation or around the surgical convalescent microörganisms will often creep into the wounds through means that defy explanation, and thereby defeat the possibilities that are so often claimed for veterinary operations. Operations performed in well-equipped operating rooms or out of doors and upon patients placed afterwards in reasonably clean environments yield the highest percentage of so-called aseptic results. Country operations are more successful in this connection than those performed in the large crowded cities, although it must not be forgotten that abominable conditions may also exist in certain country stables. On the whole, however, microörganisms are less abundant in the country districts. This is particularly true of pyogenic bacteria. The reverse may be the case with other bacteria.

To take the best advantage of the situation the following recommendations are made :

1. *Equip the operating room as follows :*— (1.) *Sterilized bandages* of muslin each about five yards long. About two or

three dozen of these can be kept in a large salt-mouth, glass-stopper bottle containing a solution of mercuric chloride 1-1000. These bandages are removed from the bottle for immediate use, and as they have bathed in the solution for some days their sterilization is perfect. (2.) *Sterilized cheese-cloth*, in lieu of *gauze packing*, is kept in exactly the same manner, loosely, wrapped in the form of bandages to make it convenient to handle as packing. (3.) *Sterilized sponges* used for bailing blood from the surgical wound are kept in a quart salt-mouth, glass-stopper bottle containing the same solution or alcohol. (4.) *Sterilized sutures* are kept in a jar of alcohol and are unraveled through a small perforation in the lid. These may consist of large balls of linen thread or silk. In addition, *sterilized silk* and *sterilized cat-gut* in hermetically sealed bottles, in limited quantities, may be kept, for special procedures. (5.) A large jar of 95 per cent. carbolic acid to *sterilize instruments*. This jar has a carpeted bottom to prevent blunting the knife points placed blade downward into it. (6.) *Absorbent cotton* in the original package.

All of these articles are sensible, economical, practical and last, but not least, effectual in bringing the results desired.

2. *Use no less than five clean, white, porcelain pans for each operation. Pan No. 1* contains soap, hot water, scissors, razor and a sponge or pledget of cotton. It may be an ordinary metal bucket. It is used to carry out the first step of disinfecting the operating field. As the dirt and hairs are dispatched with these implements, the pan is made too dirty for future use at the same operation. When the cleansing is finished this pan is emptied and set aside, to be used as a "slop pan," to receive dissected tissues, soiled sponges, etc. *Pan No. 2* contains mercuric chloride 1-500 or even 1-200 and a number of small pledgets of absorbent cotton or several sponges. It is used to sterilize the operating field. The pledgets of cotton or the sponges are taken from the pan and used to wash the skin one after another. They are not carried back and forth from the patient to the pan. When one is soiled it is set aside or thrown into pan No. 1, which has been emptied of its dirty water to receive all the soiled articles. This pan is then used to immerse the surgeon's hands. *Pan No. 3* is the bailing pan. It contains a very weak antiseptic solution or sterilized water, and several sponges or a number of pledgets of cotton. It is the assistant's pan. The sponges or pledgets of cotton are used by the assistant to bail or wipe the blood as the surgeon proceeds with the dissec-

tion. These sponges or cotton wads when soiled or over-filled with blood are cast aside or else thrown into pan No. 1, because if rinsed in the same solution it would soon be bloody, probably septic, and unfit for the intended purpose. *Pan No. 4* is the instrument pan, and contains a 3 per cent. solution of carbolic acid and all of the surgical instruments required for the operation and which have previously been bathed in the 95 per cent. solution. A clean *instrument table* may be used as a substitute for this pan, but the former is preferable because it keeps instruments from becoming too badly infected from septic tissues and from air that has not been entirely cleared of its dust. *Pan No. 5* contains a 3 per cent. solution of carbolic acid, as many threaded needles as will be stitches required to close the wound, a needle holder and a dissecting forcep. When the operation is complete the dissecting forcep is taken in the left hand and the needle holder in the other. The needles are picked up with the forcep and placed in the jaws of the needle holder. Then the lips of the wound are lifted with the forcep and the stitches adjusted. This manipulation eliminates the direct use of the fingers, which have become more or less contaminated during the operation and which are never entirely safe enough to touch the recent wound. All of the other precautions are useless if at the very end of the procedure the wound is "pawed over" with the hands.

3. *Avoid operating in a dusty environment*, especially in the dust of a stable or of a veterinary operating room, and secure the patient so that the struggles will not send flying particles into the wound. Flying hairs may be eliminated by brushing the patient and then dampening the surface of the body, especially immediately around the seat of operation, with a wet cloth.

4. *Use only sterilized dressings*, provide effectual and adequate drainings, and avoid unnecessary after-care. Leave a well-drained wound much to itself, rather than submit it to the mercies of the unskilled attendant. Remember that dryness is the ideal condition to prevent microbian growth.

5. *Use only perfectly sterilized sutures.* Thread the needles before the operation begins. Thread each needle with just enough thread for a single stitch to prevent dragging them over dirty parts of the patient or operating table. Insert them only with the needle holder. Use absorbable thread for buried sutures.

6. *Secure the patient* so that the seat of operation is under

perfect control. Unless the operator respects this recommendation all of the other efforts are absolutely useless. General anæsthesia is especially commendable. Dust, flying litter, hairs and the dirty hands are certain to contaminate the wound if the patient is permitted to thrash about.

7. *Avoid the unnecessary use of the bare hands.* The fact that the veterinarian's hands are always more or less infested with pyogenic microörganisms, together with the difficulty of keeping them from coming into contact with dirty objects as the operation proceeds renders this precaution specially important.

"IT is a great pleasure for a veterinarian to forward his subscription when he knows he will receive such full value for his money as the editors of the REVIEW are giving."—(*S. G. Hendren, Arlington, N. J.*)

PRESENT STATUS OF THE HORSE.—With recollections of a remarkably successful season fresh in mind amateur and professional horsemen are looking ahead in full confidence that the achievements of the new year now beginning are likely to surpass those of the season just ended in nearly all sporting and commercial lines appertaining to the horse. Notwithstanding the fact that automobile factories and salesrooms are springing up like mushrooms on all sides, while millions of dollars are being poured out in promoting this latest mechanical substitute for the horse, favorable omens for the future of equine sports and business interests abound on every hand, affording ample proof that the motor car, like the trolley car, the bicycle, the steam car and all the other old and new harbingers of a "horseless age," is as powerless as the rest to supplant the noble animal that has made present day civilization possible. Even the automobile enthusiast now recognizes that John Splan was right when he said in answer to the prophets of a "horseless age" a few years ago:—"Yes, the automobile will put the horse out of business about the time the typewriter takes the place of the piano." As briefly recorded in the *Herald* last Sunday, horse shows, coaching, riding, racing and, in fact, nearly every sport or pastime associated with the horse made distinct gains in public favor last year, while all market records for the sale of horses were surpassed in New York, Chicago and other great distributing centres. That further and perhaps greater gains will be made in 1906 seems to be the consensus of opinion everywhere in the field of sports and commerce.—(*New York Herald, Jan. 8.*)

ARMY VETERINARY DEPARTMENT.

THE ARMY VETERINARY BILL.

Secretary Taft still has before him the eleven Army bills recommended by the General Staff. It is the purpose of the Secretary to send these bills to the House and Senate Committees on Military Affairs with a letter in each case recommending that they receive favorable consideration. It is probable that he will take them up for consideration early next week and transmit them to Congress before the end of the week.—(*Army and Navy Journal, Jan. 13.*)

As explained in the REVIEW for January, the Veterinary Bill is No. 7 of these eleven bills, and if the programme outlined above is carried out, the bill which holds our interest will be in the Military Committees before this number of the REVIEW reaches its readers. By reference to the report of the annual meeting of the Veterinary Medical Association of New Jersey, printed in the regular department, the President, Dr. T. Earle Budd, who is chairman of the Committee on Army Legislation of the American Veterinary Medical Association, makes vigorous reference to the subject in his address, declaring that he will go to Washington and personally appeal to President Roosevelt in behalf of the measure. The New York State Veterinary Medical Society is also ready to act in furthering its passage through Congress, and with the endorsement of the General Staff and Secretary Taft's recommendation that it receive favorable consideration, it would appear that no circumstance could arise to defeat the Bill.

NOTES FROM THE PHILIPPINES.

Dr. R. J. Stanclift, Senior Veterinarian of the 8th U. S. Cavalry, Cavalry Garrison, Fort Wm. McKinley, Rezan, P. I., under date of June 12, writes to Dr. D. Arthur Hughes, who has kindly offered the matter to the REVIEW as of interest to its readers:

"I have had a chance to make several post-mortems (not all on cases that I lost either) and have a nucleus for a collection

of parasites (entozoa) which I hope to enlarge. But, surprising as it may seem, army horses here are not infested with many intestinal parasites, especially the more common species prevalent among animals in the States. I have a good specimen of *Spiroptera scutata* in the epithelium of the stomach. All authors say it has been seen in the œsophagus, but never in the stomach. So I am hoping to find other infestations that have not been described before. Anyhow, I shall get a collection which I hope will be good enough to loan to the New York State Veterinary College on my return.

"I have an article or two blocked out: one on canker and the results of my treatment tried for three years at Jefferson Barracks. The other is on ulcerative or epizoötic lymphangitis, as I have a number of cases which may be of interest to the veterinarians in the United States.*

"Unfortunately for me, I have not seen any surra as yet, and I hope we do not have any here. But there has been an outbreak in the De Laguna Bay, and I hope to be sent up there to study it for a few days.

"I have been studying a skin disease in horses called here dhobie itch. I have not been able to find a parasite as the inciting cause. The disease is amenable to an anti-parasitic treatment, so I am nearly convinced that it is a scabies. I hope to find the cause.

"The Government laboratories at Manila are not doing any research work on veterinary lines, but there is a great field here.

"We arrived here during the dry season and took station here about six miles from Manila in this part of the fort which is in process of construction. When completed Ft. Wm. McKinley will accommodate 6,000 troops of artillery, cavalry, infantry, engineers, signal corps and the first division of the hospital corps. So the fort is a little city in itself. We have a launch which makes three trips a day to Manila. We also have a good road, so that one can ride into Manila easily without being fatigued.

"We have at the fort a complete sewer and water system—the water comes from an artesian well about 1000 feet deep. As it is free from contamination the health of the Post is very good.

"I am kept fairly busy, as we have about 950 animals in the post and expect an increase of about 400 about the first of Au-

*We trust Dr. Stanclift will furnish these articles to the "Army Veterinary Department" of the REVIEW.—EDITOR.

gust. I hope to be moved this winter to another station, so as to get into a new field and see more of the country.

"The City of Manila is of the old Spanish type, interesting at first, though later, of course, one may tire of it a little. The natives are principally Tagaloes, but not of the pure stock. I would like to get back further into the country and see them in an aboriginal state if possible. These people look like a mixture of Chinese and Malays. Some of the people show negroid or Papuan features. All of the laboring class are small as far as height goes, but they are muscular. The country around here (Rezan) is laid out in rice fields, or paddy's, as they are called, with bamboo and palm trees. Vegetation is luxuriant now that the rain has started."

* * *

Under date of Nov. 15, Dr. Stanclift writes:

"A surra board is to be appointed here (Ft. Wm. McKinley, Rezan, P. I.) for the investigation of the disease. It has not yet been ordered, but I have been promised that I will be put on it; so I may have a chance to do some research work.

"I am very busy, as I have the mounts of eight Troops of Cavalry and one Battery of Field Artillery to look after. Three troops are in the Moriquissa Valley, so I ride up there frequently and enjoy the trips very much. I have had two cases of *Filaria oculi* in the last three months and operated successfully in both cases. I have had three cases suspected of glanders; but the disease, after all, did not appear. Tested with mallein and animal inoculation of guinea-pigs; all negative. I have an occasional case of lymphangitis; operated on one to-day. The remainder of my cases are principally foot diseases, canker, various trumatisms, punctured wounds and some cases of laminitis, besides minor wounds and tendonitis. As a rule treatment works out very satisfactorily, considering the bad conditions sometimes.

"I have finally gotten an appropriation of $5,000 for a veterinary hospital, so that looks encouraging. There is a rumor and well founded I think, that we of the 8th Cavalry will go to Camp Statunburg about Jan. 15, when the 2d Cavalry goes back to the United States.

"As usual, I am in good health. The dry season has started and the weather is fine. Nice cool nights, when a blanket is very comfortable. The temperature during the day does not get over 85° F. You see this is better than snow and zero weather."

EXAMINATIONS FOR ARMY VETERINARIANS.

The War Department is preparing to hold another examination for candidates desiring to enter the military service as veterinarians. This examination will probably be held some time during the early spring, the date not yet having been decided upon. There are at present two vacancies, both in the Cavalry, and should the present Veterinary Bill before Congress become a law there will be at least three more, on account of retirements. Those wishing to take part in the examination should write at once to the Military Secretary, Washington, D. C., for permission to do so.

* * *

THE following cheering but laconic message from our friend, Dr. Olof Schwarzkopf, will explain itself to Army Veterinarians: "Honolulu, H. T., Dec. 25.—Sail to-night from here for Guam and Manila. Happy New Year. Everything O. K." A later note from Dr. W. T. Monsarrat, of Honolulu, told of the pleasant visit he had from Dr. and Mrs. Schwarzkopf, and said that both were in the best of health.

* * *

VETERINARIAN BURT ENGLISH, 2d Cav., then at Manila, P. I., was on Oct. 24 granted leave of absence for one month and fifteen days, with permission to visit China and Japan, effective on or about Dec. 15. On the expiration of his leave he was authorized to await at Nagasaki, Japan, the arrival of his regiment, leaving Manila on the transport scheduled to sail on or about Jan. 15.

NEW JERSEY EXAMINATIONS.—The New Jersey State Board of Veterinary Medical Examiners was in session at the State House, Trenton, Jan. 26th and 27th conducting an examination of candidates for license to practice veterinary medicine in that State. The next examinations by the New Jersey Board will be held in June.

COLORADO BIDDING FOR THE A. V. M. A. MEETING OF 1907.—Quite a strong movement is on foot to secure the meeting of the National Association next year. The State Association at its recent meeting appointed a committee of its members to attend the New Haven meeting to create a sentiment favorable to Denver. The Denver Convention League and the Chamber of Commerce will join with the veterinarians of the city and state to entertain the Association, and the feeling is one of confidence that a successful meeting could be held at the Colorado Capital.

AMERICAN MEAT IN FOREIGN MARKETS.

The present and prospective standing of the live meat animals and packing-house products which comprise the surplus of the United States exported to principal foreign markets is the subject of a bulletin recently prepared by the Division of Foreign Markets, Bureau of Statistics, of the Department of Agriculture. This bulletin contains a large amount and variety of hitherto uncollected information.

The United Kingdom imposes no duties whatever on the importation of live meat animals or packing-house products. Live animals are likewise admitted free of duty in the Netherlands and Denmark, while packing-house products are admitted into these countries and Belgium either free or at low rates of duty. Considerably higher duties are imposed on these products when imported into other European countries, and important advances are being made by several of these countries.

A Notable Tariff Year.—The year 1906 will undoubtedly prove a notable one in the tariff history of Europe. There has been no general revision of tariffs since the nineties, when the French tariff law was enacted and Germany and Austria-Hungary entered into the series of commercial treaties by which the duties they imposed on products coming from all countries enjoying the most-favored nation treatment were fixed, until the close of 1903.

As that time approached, important tariff changes were advocated in many quarters. Switzerland on October 10, 1902, Germany on December 25, 1902, and Russia on January 13, 1903, adopted new schedules which however were not to go into effect without subsequent action. In Austria-Hungary about the same time a new bill was introduced which has not yet been enacted into law.

Almost without exception the changes made by Germany and Switzerland and proposed by Austria-Hungary affecting meats and meat products carried considerable advances. By treaties subsequently entered into with other countries, the rates for the most favored nations were somewhat reduced, but were kept generally higher than the conventional rates which they superceded. Considerable difficulty has been experienced in the conclusion of treaties, and up to the present time Switzerland has entered into treaties only with Germany and Italy, although its new tariff went into effect January 1, 1906.

The Russian and German tariffs and treaties are to go into effect March 1, 1906.

Of the treaties negotiated by Russia under the new tariff, only one, that with Germany, has been finally ratified. Germany has succeeded in renewing treaties with all the countries with which it formerly had treaties, making concessions in rates, with the exception of its commercial agreement with the United States. This leaves as the basis of the right for mutually favored commercial relations between the two countries only the old treaties concluded with Prussia and other German States before the Empire was established, some of which date back as far as 1827 and 1828.

Disadvantages in France and Spain.—At the present time all of the fourteen countries under consideration in the bulletin, with the exception of Spain and France, admit the products of the United States at rates no higher than those imposed on similar imports from other countries. The commercial agreement of 1898 with France grants the minimum rates of duty on certain specified products, which include canned meats, sausages and similar products, and lard. Other packing-house products and all meat animals of United States origin imported into France, together with all articles imported into Spain from this country, are subject to the higher rates of duty.

Equality in Switzerland.—Prior to January 1, 1906, Switzerland also imposed on American products its general tariff rates. The conventional rates, which had formerly been accorded to imports from this country, were withdrawn in 1900 after the abrogation of certain articles of the treaty between the United States and Switzerland, but when the tariff went into effect the Swiss Government, without treaty obligation to do so, restored American goods to an equality with those of other countries.

Preferment in Cuba.—In the markets of Cuba articles imported from the United States enjoy an advantage over those imported from any other country. Thus American cattle are admitted at 40 per cent. lower tariff rates than those imposed on imports from other countries, and other live meat animals and packing-house products at a reduction of 20 per cent. This preferential treatment of United States products is guaranteed by the treaty of 1903.

Sanitary Restrictions.—In several countries special restrictions for alleged sanitary purposes are in force, some of which operate to the advantage and some to the disadvantage of

United States products. In the United Kingdom, for example, the importation of cattle at the present time is prohibited from our great South American competitor—Argentina—as well as from Uruguay and from Russia and various other European countries, while from the United States such animals are admitted subject to slaughter at port of entry within ten days after disembarking.

The sanitary regulations of Germany, however, operate very much to the disadvantage of American products. The prohibition of importing canned meats and sausage, while of general application, strikes the United States most severely, since it formerly furnished the bulk of these products. The importation of cattle and fresh beef from the United States is prohibited. Even a more general prohibition is enforced against Russia, covering swine and sheep as well as cattle; but cattle from Austria-Hungary and Switzerland are admittted under certain restrictions. All meat products are subject to a rigid inspection.

France likewise requires the inspection of all meat animals and fresh meat imported, as well as sausages when imported from the United States. A certificate of inspection from the United States Department of Agriculture is required for all salted, pickled, or smoked pork imported from this country. Meats may be imported only at designated custom-houses and in certain forms of shipment, in order that rigid inspection may be performed. For this inspection, as in Germany, fees are charged, which naturally tend to increase prices and thus to limit importation.

Italy prohibits the importation of American swine, but permits the importation of pork when accompanied by an official inspection certificate; and Russia prohibits the importation of all forms of pork and pork products, with the exception of lard and hog products for industrial use.

In several countries the importation of oleomargarine is permitted only when its nature is clearly indicated. In some cases all oleomargarine colored artificially is absolutely prohibited.

Greatest Meat Surplus Country.—No other country produces so great a surplus of meat as the United States. During the year ending June 30, 1904, the exports of live meat animals and packing-house products were valued at $217,000,000. No other country, except nearby Ireland, sends so many cattle to the English market. The exports of United States cattle to British ports during 1904, amounted to 387,000 head, valued at

$36,000,000, and along with them were exported 223,000 sheep, worth nearly $2,000,000.

Belgium has become an important destination for United States cattle, and more than 18,000 were exported there during 1904. The cattle shipments to Cuba, which prior to 1898 seldom reached 10 head a year, amounted to 135,000 head, valued at $2,000,000.

Beef is exported from the United States chiefly in the form of fresh meat, and this is nearly all sent to British markets. This trade has increased while the exports of other kinds of beef have become less during the fifteen years 1890–1904. The United States exported to the United Kingdom 171,000,000 pounds of fresh beef in 1890 and 298,000,000 pounds in 1904.

Trade in Bacon, Hams, and Pickled Pork.—The exports of bacon have declined since 1890. In that year 450,000,000 pounds were shipped to the United Kingdom, 37,000,000 to Belgium, and 12,000,000 to the Netherlands; while in 1904 the quantity exported to the United Kingdom was only 197,000,000 pounds, to Belgium 12,000,000, and to the Netherlands 2,000,000 pounds.

On the other hand, the exports of hams increased. In 1890 there were exported 65,000,000 pounds to the United Kingdom, and in 1904 the amount was 170,000,000 pounds. With some countries, however, there has been a recent decline. Shipments of hams to Germany increased from 1890 to 1898, after which they declined greatly on account of restrictive legislation.

Similarly, the exports of hams to Belgium, which in 1898 reached 16,000,000 pounds, suffered a decline after that year. Exports of salted and pickled pork, to the United Kingdom increased greatly during 1890-1904, while exports to Germany increased from 1890 to 1898 and declined from 1899 to 1904.

Extensive Markets for Lard.—Lard is not only the most valuable of the packing-house products exported from the United States and worth even more than the cattle exported, but it reaches more markets in large quantities than do most other products of its class. Exports of this article to the United Kingdom increased from 151,000,000 pounds in 1890 to 199,000,000 in 1904; and the exports to Germany increased from 117,000,000 to 178,000,000 pounds in the same time.

Lard compounds have gained in importance among the exports until the quantity shipped in 1904 to Cuba reached 21,000,000 pounds, United Kingdom 11,000,000, Germany 7,000,000, and Belgium 5,000,000 pounds. Oleomargarine is exported

chiefly to Germany and the Netherlands, with smaller quantities to Norway Cuba, British West Indies, Sweden, and Belgium. The chief markets for oleo oil are the Netherlands and Germany, the exports to those countries in 1904 being 99,000,000 and 27,000,000 pounds respectively.

River Plata Frozen Meat. — The leading competitor of the United States in supplying fresh beef for the British market is Argentina. In 1900 quarantine restrictions put an end to the imports of live cattle from that country into the United Kingdom and at the same time made available a supply of fair beef cattle for the freezing industry which was soon established along the River Plata. The production of frozen beef in that region has increased until in 1904 the exports from Argentina amounted to 215,000,000 pounds. Exports of frozen mutton were 195,000,000 pounds, and the total exports of all frozen meat from that country in 1904 equaled 410,000,000 pounds.

Lying north of the River Plata and extending up into Brazil is a great cattle region, which includes Uruguay, Paraguay, and the State of Rio Grande do Sul in Brazil. Its chief meat product is a coarse salt-dried beef, known along the River Plata as "tasajo" and in Brazil as "xarque." As the development of this region progresses, there is a tendency to improve the quality of the cattle and to produce fresh meat for export to Europe instead of dried beef for South American and West Indian markets. Such a transition has been taking place in Argentina.

Effect of Australian Droughts.—Owing in a great measure to destructive droughts the meat surplus of Australia has undergone a marked decline, especially from 1900 to 1904. In 1900 exports of frozen beef and veal were 96,000,000 pounds, frozen mutton and lamb 67,000,000, and tallow 79,000,000 pounds; while in 1904 the exports of these articles were respectively, 37,000,000, 48,000,000, and 57,000,000 pounds. The value of exports of rabbits and hares, however, increased from $868,000 in 1900 to $1,072,000 in 1904. New Zealand, on the other hand, sends more meat abroad than ever before. Its chief export meat, frozen mutton, amounted to 228,000,000 pounds in 1904.

Surplus of Canada.—Canada is about the only competitor of the United States in exporting cattle, hams and lard. In none of these articles, however, have there been any important increases during the five years ending with 1904. In 1904 there were exported from Canada 157,000 cattle, 3,900,000 pounds of hams, and 500,000 pounds of lard.

The principal meat exported from Canada is bacon. The quantity exported increased from 77,000,000 pounds in 1898 to 112,000,000 pounds in 1899, and in 1904 amounted to 124,000,000 pounds.

Most of the cattle and meat of Canada is produced in the region lying east of Lake Huron. Of the 5,600,000 cattle in the country in 1901, all but 1,000,000 were in Ontario, Quebec, and the Maritime Provinces. In Ontario alone there were 2,500,000.

Few Supplies from Russia. — The surplus meat of Russia is not sufficient in quantity or quality to have much influence upon the world's markets. What there is of a meat-producing industry in that country is generally in the hands of peasants who are not able to incur the expense necessary to produce good fat meat animals. This is especially true of cattle. Many of the cattle sold are too old for dairying or farm labor, and often a peasant sells his surplus cattle in the fall rather than feed them during the winter.

Difficulties in securing prompt transportation across the western frontier have also hindered the growth of Russia's meat export trade. In 1904 that country exported $2,000,000 worth of live meat animals, $2,000,000 worth of packing-house products, and $5,000,000 worth of poultry and game — chiefly live geese for the German market.

THE VETERINARIAN OF THE HOUR.—The New Year number of the *Daily National Live Stock Reporter*, published at St. Louis, Mo., had a galaxy of veterinary contributors upon important subjects in connection with live stock. Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, had a half-page article on " The Work of the Bureau of Animal Industry " ; Dr. D. Arthur Hughes, on " The Value of the National Quarantine Line Against Texas Fever " ; Dr. W. H. Dalrymple, on " Good Market for Our Pure Breds (Spanish America offers an exceptional opportunity to breeders, if they will but grasp it) ; " State Veterinarian Dr. D. F. Luckey, on " Conditions of Live Stock in the State of Missouri in Relation to Disease. " This symposium of veterinarians who are showing to the country that they are alive to the commercial as well as the scientific side of the question of animal industry, should be a sufficient answer to those who have advocated the displacement of the veterinarian as Chief of the Bureau of Animal Industry and supplant him by a layman.

CORRESPONDENCE.

ARECOLINE IN ACUTE LAMINITIS—UDDER INFLATION FOR TYMPANITES IN COWS.

COSHOCTON, OHIO, Jan. 10, 1906.

Editors American Veterinary Review:

DEAR SIRS:—For the benefit of veterinarians who have never used arecoline hydrobromate in the treatment of acute laminitis, I wish to report that of the last sixteen cases of acute laminitis, I used nothing in the line of treatment except arecoline, 1 gr. hypodermically, once daily, for from two to four days. All were apparently well from second to fourth day.

Recently I treated six cases of indigestion in cows, resulting from overeating of grain, cabbage and apples. Most of the patients were comatose and completely helpless. The only treatment was to inflate the udders with oxygen or air. Previous to treating above six cases I used same treatment in similar cases with same results. Since using this treatment I have been so fortunate as to have no call to treat a male animal similarly affected. Yours truly, J. E. FOSTER.

MARK GOODMAN, who has practiced in Brooklyn for a number of years, has sold his business and removed to the West. Dr. H. J. Brotheridge has succeeded to Dr. Goodman's practice.

AGRICULTURAL AND ALLIED INTERESTS IN NEBRASKA.—From Jan. 15 to 20 there were held at Lincoln, Neb., the fifth annual sessions of the associations for the promotion of agriculture and animal husbandry in Nebraska. These organizations include the Association of Agricultural Students, the Nebraska Duroc-Jersey Breeders' Association, the Nebraska State Veterinary Medical Association, the Nebraska State Board of Agriculture, the Nebraska State Horticultural Society, the Nebraska State Swine Breeders' Association, the Nebraska Dairymen's Association, the Nebraska State Poultry Association, the Nebraska Improved Live Stock Breeders' Association, the Nebraska Corn Improvers' Association, the Nebraska Short-horn Breeders' Association, the Nebraska Park and Forestry Association, and the Nebraska State Beekeepers' Association. In addition there was a conference of the Farmers' Institute officers, and the second annual meeting of the American Breeders' Association. Veterinarian A. T. Peters, of the University of Nebraska, was the General Secretary.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

REPORT OF THE CLINICS CONDUCTED AT ITS ANNUAL MEETING HELD AT ITHACA, SEPT. 12, 13 AND 14, 1905.

By W. L. WILLIAMS, Chairman Committee on Clinics.

In our report of the clinics of this society for the 1904 meeting, which appeared on page 881, Vol. XXVIII, of the REVIEW, we tried to show that they stood for something of tangible value and taught certain lessons which might be applied in the practice of the observer and that to accomplish this end each operation need have scientific and economic value. The clinics of this society have been conducted along positive lines without permitting them to become exhibitions of unusual feats of skill, unique displays or incongruous mixtures ending in inextricable confusion.

The last clinic differed from its predecessors in that the cases were almost all collected and in charge of the committee some days prior to the meeting, and before the convention was called to order the first day, a neatly printed clinical programme was handed to each member, naming the entire list of cases and stating the day and hour at which each case would be shown or operated on. Although this clinical programme was scattered over three days, each case was shown or operated on on the day and at the hour announced with the exception of one case (fistulous withers), which failed to appear—a better showing than was made on papers at the same meeting and better than generally prevails at veterinary associations. In this important respect it surpassed all prior clinics of this or other societies, so far as we know.

The animals were each of definite commercial value and the results have been highly satisfactory.

CASES.

1. *Castration of Cryptorchid Colt; W. L. Williams, Operator.* A well-developed, three-year-old colt with the history that

one testicle had been removed and repeated unsuccessful attempts made to get the other. Manual rectal exploration revealed the presence of the retained testicle on the right side.

On Sept. 12, after suitable preparation, the patient was placed on the operating table on his left side and the right hind leg elevated so as to freely expose the inguinal region. After proper disinfection an incision about six inches long was made parallel with the median raphé of the scrotum and about one inch to the right of it. The incision was extended through the skin and dartos and into the dense scar tissue which marked the prior attempts at castration. It was found that the inguinal space was largely filled with very dense cicatricial tissue, which offered great resistance and made the work very tedious. When the region of the internal inguinal ring had been reached no such structure could be identified in the general mass of scar tissue and an opening was made with the index finger into the peritoneal cavity as near to the location of the ring as could be determined. With the index finger in the peritoneal cavity it was found that the puncture had been well placed and the gubernaculum testis and vas deferens were immediately against the opening. These were grasped by the finger, drawn out through the wound, the testicle following and removed with the emasuclator. The wound was tamponed with iodoform gauze, the scrotal wound closed and the patient removed from the table to recover from the chloroform.

On Sept. 13, the tampon was removed, the wound dressed with 1-1000 corrosive sublimate solution and left open. The daily disinfection of the wound was continued till Sept. 22, when the animal was travelled home, a distance of 40 miles. There was no notable reaction to the operation.

2. *Poll-Evil Operation; Operator, F. F. Fehr.*

The patient was an ordinary small adult horse showing a large abscess on the poll, without evidence of prior surgical interference and said to be of several weeks' standing. There was a slight purulent discharge on one side, which could not be probed deeply, but seemed wholly superficial. The mane and foretop were clipped and shaved over the entire poll and forehead and the parts well cleaned and disinfected. The patient was placed on the operating table on Sept. 12, chloroformed and the operation carried out according to the Williams technic. The sutures and tampon were removed on Sept. 14, the wound disinfected and dressed dry with iodoform and tannin. Thereafter the wound was dressed daily by washing with 1-1000 cor-

rosive sublimate solution and dusted with iodoform and tannin. No complications occurred and the patient was discharged on Sept. 26, convalescent—*i. e.*, the wound was covered at every point with healthy granulations and healing rapidly. Recovery prompt and complete.

3. Defective Molar Tooth with Empyema of Maxillary Sinuses; W. L. Williams, Operator.

This case, with the following one, was used to illustrate the technic as described by the operator in his paper "Empyema of the Facial Sinuses of the Horse," which will appear presently in the REVIEW.

The patient, an adult black mare of common breed, used for farm work, was in good general condition. She showed a profuse, very fœtid discharge from the left nostril, which was said to have existed for some months. No surgical treatment had been attempted. The region of the left maxillary sinuses was markedly bulged; no dyspnœa was present. A manual exploration of the mouth revealed the 2d left superior molar (5th tooth) split antero-posteriorly through its crown with the two halves spread apart and food impacted between them. On Sept. 12, the animal was confined on her left side on the operating table and an attempt made to extract the tooth with forceps without any definite hope of success, but in default of this the crown would be broken off at a level with the alveolar margin, making a valued mark in the operating field and diminishing the length of the tooth in a manner to facilitate its repulsion. The crown crumbled as soon as pressure was applied to it with the forceps and all was accomplished which had been expected.

The area covering the fang of the diseased tooth was shaved and disinfected and 20 grains of stovaine injected hypodermically, by which satisfactory local anæsthesia was obtained. General anæsthesia could not be had with safety unless the anæsthetic had been administered through a trachea tube, as otherwise the putrid nasal discharge would have been inhaled.

A disc of skin, subcutem and periosteum, 1 inch in diameter, was removed at a point on the median side of the zygoma, about 1½ inches above its inferior end, and in this denuded area a trephine opening of the same size was made. It was found (as is common in these cases) that the septum between the superior and inferior maxillary sinuses had been destroyed and the two constituted one common cavity, which with a part of the frontal sinus, was filled with extremely fœtid,

inspissated pus. A portion of the pus was flushed out through the trephine opening with warm water, but some of it was being washed into the nostril in a manner to threaten inhalation of it and the completion of this was abandoned until after the patient could be permitted to stand. Commencing at the inferior border of the trephine opening, the soft tissues were separated from the bone over the region of the affected tooth by means of a scalpel and the bony plate of the zygomatic ridge removed with Luer's bone gouging (rongeur) forceps. The zygomatic ridge having been passed, the scalpel was pushed into the buccal cavity between the soft tissues and the bone, and the two separated over the entire area of the affected tooth. The external alveolar plate was then removed with the bone chisel over the entire external surface of the tooth, so that it was completely bared from fang to crown. A punch was then placed against the fang and the tooth remnants readily forced into the mouth and removed, and the alveolus carefully cleansed of all fragments of bone or tooth.

A second trephine opening was now made on the median side of the conduit of the trifacial nerve at the region of the most inferior and median portion of the inferior maxillary sinus with a view to providing ample dependent drainage into the nostril for that portion of the cavity on the median side of the nerve, by breaking through the inferior turbinated bone where it forms the median wall of the sinus. The trephine opening completed, it was found that nature had anticipated us, a large opening already existing at the desired point as a result of necrosis of the turbine produced by the action of the purulent matter.

The patient was released from the table, placed in the stocks and the inspissated pus and blood coagula from the operation were flushed out with a warm antiseptic solution from an irrigator. The empty alveolar cavity was filled by a tampon saturated with 1-16 carbolized oil and the trepine wounds left open.

An inspection of the affected tooth showed that the defect was the result of an arrest in the development of the organ by which the external dentinal plate had failed to fuse with the contiguous infundibular dentinal layer so that when the crown came in wear and the coronal flexure of dentine was worn away the pulp cavity was opened to infection and purulent pulpitis resulted and, the escape of pus being hindered along the line of infection, through the tooth, it followed the line of least resistance and escaped into the maxillary sinus and thence

through a pathologic opening in the turbine, into the nasal passage and out through the nostril.

The non-cohesion of the contiguous dentinal plates also caused a marked diminution of the power of resistance in the organ and led to a splitting in an antero-posterior direction between the plates.

On the following day and daily thereafter the sinuses were flushed with warm antiseptic solutions and the alveolar tampon renewed.

The discharge and fœtor almost wholly ceased with the operation, mastication was not interrupted, there was some swelling in the operative area (from the stovaine?), the appetite and general condition were unaffected and the patient was discharged fully convalescent on Sept. 20.

4. *Empyema of Maxillary Sinuses; Operators, W. L. Williams and E. B. Ackerman.*

The patient, a medium-sized, chestnut driving gelding of adult age, was entered with the history that the attending veterinarian had had him under surgical treatment for several months without avail. He had been trephined several times, followed by antiseptic irrigations, but we understood that ample nasal drainage had not been attained.

When presented there was a copious and abundant mucopurulent discharge, without odor, from the left nostril, bulging of the face over the left maxillary sinuses and over the lower portion of the frontal. The bulged area was dull on percussion. The nasal mucosa and sub-maxillary lymph glands were normal. The crowns of the molar teeth were apparently normal.

On Sept. 14, he was placed on the operating table and the region of the facial sinuses anæsthetized by means of the injection of 20 grains of stovaine in solution. A trephine opening was made on the median side of the zygoma at about the line of the partition between the superior and inferior maxillary sinuses. The bone was found very sclerotic and ¾ inch in diameter. The inter-sinusal partition was broken down by the operators and both cavities were found to be largely occluded with new-formed bone and soft tissue. The inferior sinus especially was almost wholly obliterated, its capacity not exceeding two fluid ounces, while all that portion of the superior sinus on the dental side of the summit of the zygomatic spine was occupied by the new formation. A second trephine opening was made on the median side of the trifacial nerve conduit and an opening broken from the inferior sinus into the nasal chamber. Examination indi-

cated difficulty also with the frontal sinus and a third trephine opening was made into its most inferior portion and an ample opening forced thence into the nasal passage. We thus had openings into the nasal passage from the frontal and inferior maxillary sinuses, affording ample drainage from all. Pus was found in each sinus.

After release from the operating table the sinuses were thoroughly flushed out with a warm antiseptic solution and the trephine openings left free. The openings from the sinuses into the nasal passages were kept open for 48 hours by means of strips of gauze drawn through them. The antiseptic flushing of the sinuses was continued daily. There was a considerable discharge from the sinuses, most of which escaped through the nostrils, but some found exit through the external openings on the face, but no accumulations in the sinuses occurred. The purulent discharge abated very slowly and the recuperative powers seemed very weak, but finally, by Oct. 10, the discharge had practically ceased and the trephine openings had almost closed. The openings were enlarged sufficiently to admit the finger for exploration, when to our surprise we found the maxillary sinuses had both virtually disappeared, filled up by a new growth of bone and soft tissue. The soft tissues were very dense, almost cartilaginous in character. The lower part of the frontal sinus was similarly filled.

Malignant neoplasm was suspected, especially since the face was even more bulged than when entered in the clinic and no other explanation for the new growth appeared. Material from the sinuses was submitted to Dr. V. A. Moore for examination, and he reported finding only an inflammatory growth without evidence of malignancy.

A few days later the discharge had ceased entirely, the facial bulging had markedly decreased, and on Nov. 1 he was apparently well. On Nov. 6 he was returned to the owner with only slight bulging of the face, small cicatrices at the seat of trephine openings, no dyspnœa and in all respects apparently permanently cured.

5. *Castration of Colt in Standing Position; G. T. Stone Operator.*

An ordinary yearling colt submitted for castration was secured by means of a twitch, the testicles cut down upon with an ordinary scalpel, and then removed with the emasculator. Recovery was without interruption and the colt discharged on Sept. 17 to travel home, a distance of 14 miles.

6. *Milk Fistula in the Teat of a Cow; Operator, Louis Juliand.*

The patient was a young cow which had a congenital fistulous opening on the side of the teat through which milk flowed freely during milking and rendered that operation unpleasant. The fistulous opening was cauterized with stick nitrate of silver and the cow returned at once to the owner's premises.

7. *Rupture of the Extensor Pedis Muscle in New-Born Foals. Exhibition of a recovered case to show absence of the extensor pedis muscles and the peculiar action resulting therefrom. Museum specimens illustrating the lesions in fatal cases. Professor Law.*

This exhibition was intended to illustrate a rarely described condition of new-born foals which has been apparently unusually common in this district or else is overlooked by practitioners generally elsewhere. In one instance four foals were born on one farm in two years and constituted the total foal crop for that period. They were all by one sire and out of two unrelated dams. The two foals from one dam succumbed in a few days; the two foals from the other recovered, the exhibited case being one of them. Two other foals at least have been observed in this region from stock wholly unrelated to these four, suffering from the same disease or accident. One of these was described and illustrated by W. L. Williams in the REVIEW, Vol. XXI., page 444, under the title "Extreme Luxation of the Patellæ of a Foal," in which case, along with the lesion suggesting the title, there also occurred rupture of the extensor pedis muscles. The other case consists of a museum specimen labelled "ante-partum rupture of the extensor pedis muscle," and no history given. The symptoms as observed in these cases appear at or within a few hours after birth and consist of weakness in the anterior limbs with difficulty or inability to extend the carpus, resulting in inability to stand unsupported, but may do so if the attendant will press backwards on the anterior surface of the carpus to prevent anterior flexion. A swelling is soon found on the anterior surface of the carpus, which presents itself as an effusion in the sheath of the extensor pedis tendon and is co-equal in extent with it. Manipuation will reveal the broken end of the tendon lying loose in the synovial sheath below the carpus, while an examination above the articulation will show a depression at the point where the muscle and tendon normally meet, at which place the rupture usually occurs, as was well shown by the museum specimens.

In the two fatal cases among the group of four, there was

great general weakness, and, in spite of assisting them to the mother's teat and otherwise caring for them, they succumbed in less than 48 hours without our being able to discover upon post-mortem any explanatory lesions. Apparently there was some constitutional affection beyond our view which led alike to the rupture of the tendons and to the extreme weakness and death. The recovered cases were more vigorous, and with considerable assistance managed to feed and eventually became able to get about unaided, grew finely, matured and have proven capable work animals. The case exhibited was a large brown mare, aged six years, used constantly at farm and team work. On each fore leg at the position of the extensor pedis longus muscle there is a deep groove extending from the elbow down to the carpus, the body of the muscle being wholly wanting. Below the carpus there is no extensor pedis longus tendon to be observed, but at the ordinary position the accessory tendon rounds the metacarpus and continues to its normal insertion. As shown by the museum specimens, the injury cannot heal, since the rupture takes place at the superior end of the carpal sheath of the tendon concerned and the end at once drops down and appears below the carpus at the bottom of the sheath of the tendon. The gait of the animal is characteristic of what should be logically expected from the lesion. In advancing the foot it must be done chiefly by the extensor metacarpi magnus, aided feebly by the accessory extensor of the pedis. The result is a peculiar flail-like advancement without that regularity and evenness seen in the normal foot. The metacarpus is carried forward with the digits hanging somewhat inert until well advanced, when the toe is suddenly extended by the accessory muscle at the moment when the extensor longus should have about completed its action.

In autopsies made on foals dying very early after birth the tendon at near its union with the muscle showed first a distinct fibrillation, followed later by transverse rupture.

There is no history of accident in either of the cases enumerated and no reason to suspect any traumatism whatever, but everything points to a purely spontaneous rupture, due primarily to a general congenital debility as well as of the tendons involved.

8. *Involuntary Shaking of the Head, Trifacial Neurotomy; R. C. Reed, Operator.*

The patient was a large brown trotting gelding, said to have been used for racing purposes, but became unmanageable be-

cause of involuntary shaking of the head. Shown to the halter he exhibited no abnormal symptoms of note, but on being hitched to a buggy and driven at a trot he quickly began shaking his head as though unbearably tormented by flies or other insects in his ears or nose. The shaking as shown at the meeting was so violent that he was not alone unpleasant, but actually unsafe as he could not be kept in the road.

It was determined to perform trifacial neurotomy, and owing to the very common wound infection in the operation it was decided to attempt it in the standing position under local anæsthesia. Accordingly the operative area was carefully shaved and disinfected and 30 grains of stovaine injected as closely as could be determined upon the trifacial nerve at its emergence from the infra-orbital foramen. The horse was confined in the stocks. It was soon seen that the temperament of the patient had been misjudged and that he was extremely obstinate and violent, and it becoming clear that the operation could not be performed in the stocks, it was decided to place him on the operating table.

Here again his obstinacy was shown and he resisted confinement violently. After securing him the operation was carried out according to the technic described in "Surgical and Obstetrical Operations," by W. L. Williams, except the substitution of local for general anæsthesia. The local anæsthesia seemed good, but the animal persisted in struggling violently. There was profuse hæmorrhage from the left wound and with the struggling during the control of the bleeding, infection was feared and it was deemed best to leave the wound open. On the right side the operation was more successful and having been neatly accomplished was carefully sutured.

On completing the operation and attempting to remove him from the table he continued his obstinacy and when placed in the upright position the attendants allowed him to slip down nearly to the floor, where he lay suspended in the girths unwilling to stand. If he were dropped on the floor serious injury was feared owing to his position and the table was consequently turned down again and the horse placed normally on it. The table was then returned to the perpendicular and the attendants carefully held him well up till he was induced to stand, when he was released. The practicability of handling obstinate horses with the operating table was severely questioned at the last meeting of the A. V. M. A. at Cleveland, and this case certainly demonstrated, so far as one case could well do, that no degree of vio-

lence or obstinacy could block the practical working of the table. Digressing for the moment, it was also shown that although it was asserted at Cleveland in the meeting of the A. V. M. A. that cryptorchid castration was impracticable on the table, Case 1, above related, directly contradicted that opinion.

After experiencing so much difficulty in operating, serious infection was feared and was not long delayed in manifesting itself. For a day or two the wounds looked fairly well, but soon were swollen, the lips parted and abundant suppuration followed. The wounds were washed daily with antiseptics and dressed after with tincture of iodine injected deeply toward the cut end of the nerve. In two or three days the patient began to show the clinical symptoms of infection of the proximal end of the divided nerve, by shaking his head badly in the same manner in the stall, which he had only done before while being driven.

The symptoms became more and more aggravated and it soon became impracticable to properly dress the wounds, feeding and drinking were interfered with and the horse became difficult to manage in ordinary stable handling. He shook his head violently and well nigh constantly. On Sept. 30, he was secured on the operating table and after injecting 20 grains of stovaine upon the nerve ends, which failed to produce complete anæsthesia, we pushed conical pieces of solid silver nitrate into the infra-orbital foramen upon the nerve ends, and secured them in position by means of tampons and sutures. There was some abatement of the neuritis for a time, but the symptoms soon reappeared and became worse than before; he scarcely ate or drank, and was losing flesh rapidly.

On Oct. 16, he was again placed on the table and anæsthetized with chloroform. A trephine opening was made into the inferior maxillary sinus at its lower part on the line of the nerve conduit, which was opened with bone forceps, an aneurism needle passed beneath the nerve and by a vigorous pull the infected nerve end was withdrawn into the sinus from the infra-orbital foramen and excised at the superior part of the opening in the conduit. The wounds in the conduit were closely packed with iodoform-cotton.

The relief from the neuritis was immediate and well nigh complete. He ate and drank freely and shook his head but little. On the following day the tampons were supposedly completely removed and the sinuses flushed with warm lysol solution, which was continued daily. The improvement remained marked for several days, when he began to shake his head again,

and six days after the operation it was discovered that a small piece of the tampon placed in the right nerve conduit at the time had been overlooked, causing considerable suppuration. The wounds were now irrigated daily with tepid lysol solution, followed by iodoform powder blown upon the wound in the conduit until Oct. 25, this was changed to a tampon of absorbent cotton smeared with iodoform-vaseline ointment. Immediately after the application of this he showed great pain each day, which subsided in about 15 minutes, when it seemed to give greater relief than other dressings. Later study of the case suggested that the low temperature of the iodoform-vaseline ointment was the cause of the paroxysms of pain immediately after dressing and the tampon was ordered warmed prior to application, and it was found that these paroxysms ceased.

The wounds now granulated rapidly and the nerve seemed entirely covered on Nov. 5, when the tampons were omitted and the facial wounds were allowed to close.

Since Nov. 5, there has been steady improvement in the symptoms and general appearances. During the intense neuritis the contact of cold water with the teeth in attempting to drink caused intense pain and a sudden cessation of attempts at drinking. The water had to be warmed in order that he might drink. In December he was hitched, and drove fairly well. On Jan. 4, he left the hospital in good general condition and apparently on the road to complete recovery. We shall aim to follow the case further and make a supplemental report later. The technic of this operation is very faulty, as it permits entirely too frequent and serious infection, although so far as the writer's observations go all cases he has been able to trace have ultimately recovered even after infection, while cases in which infection has been successfully avoided the recovery has been prompt. We are at present working on a change in the technic, with success in the one opportunity for application.

9. *Ear Tooth; F. F. Fehr, Operator.*

The patient was a six-year-old chestnut gelding of roadster type, entered in the clinic with the history that from birth he had had a mucoid discharge from the internal border of the concha about half way from the commissure of the ear to its apex, which two or three years ago became purulent and escaped at the base of the ear. An "ear tooth" was diagnosed.

Placed on the operating table Sept. 14, the region was anæsthetized by injecting 20 grains stovaine in 1 ounce water. A close inspection revealed:

1. A mucous tract beginning about midway up on the inner conchal margin and extending downwards about two inches toward the squamous temporal bone to near the fistulous opening, from which pus was being discharged, where it ended blindly. This mucous tract readily admitted an ordinary probe its entire length.

2. A purulent fistula close to the base of the ear over the squamous temporal bone. The skin about the opening was wrinkled and depressed, as is usual surrounding purulent fistulæ. A metallic probe readily passed downwards into the region of the temporal bone to a distance of about two inches, where it came in contact with naked tooth tissue.

The mucous tract was dissected out entire by first inserting a probe to act as a guide and then cutting it away with a scalpel. Opened, the mucous tract was found lined with deeply pigmented epithelium and ended below in a firm fibrous stalk extending toward the purulent fistula.

A crucial incision, with the purulent fistula as a centre, each line of which was about two inches long, was made through skin and sub-cutem down to the squamous bone and the superficial end of the tooth. Some confusion as to the arrangement existed here because the probe extended so deeply, a condition readily explained later. A bone chisel was applied at what seemed the margin of the alveolus and a few light taps served to loosen the tooth. With chisel and gouge the tooth was readily removed piecemeal. Upon examination of the tooth fragments it was found to have been a very imperfectly formed organ, and had undergone disintegration in its centre, so that it consisted at this time chiefly of a thin shell of dental tissue lining the alveolus, the central area being filled with pus and debris into which the probe passed to the unusual depth and caused the confusion previously mentioned. The probe had consequently passed through the tooth from crown to fang.

After the removal of the tooth the alveolus was found smooth and lined with healthy periosteum, which was not disturbed. The alveolus was packed with iodoform gauze, which was removed the following day, dressed with disinfectants, and the horse shipped to the owner by rail. The recovery was prompt and uneventful.

We have not dwelt here upon the reasons for the occurrence of teeth in this region in the horse. Isolated cases are being constantly reported through the veterinary journals, with attempts to shroud their occurrence in more or less mystery. The

writer contributed an extended article on this topic, "Teratology of the Hyo-Mandibular Gill-Slit in the Horse," which may be found in the REVIEW for June, 1904, (Vol. XXVIII., page 222).

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The twenty-second annual meeting of the Veterinary Medical Association of New Jersey was held at the Trenton House, Trenton, N. J., on Thursday, January 11, 1906, with President T. Earle Budd, of Orange, N. J., in the chair.

Members present. — Upon roll-call the following members answered to their names: Drs. Brown, Budd, Conover, Dickson (Robert), Dilkes, Fetter, Glennon, Harker, Height, Hopper (A. G.), Horner, Hurley, King, Laddey, Leatherman, Loblein, Lockwood, Lowe (John Payne), Lowe (William Herbert), Mathews (John P.), McDonough, Mecray, Mitchell, Mosedale, Pope, Rogers (Carroll T.), Rogers (Thomas B.), Runge, Smith (Thomas E.), Tuttle, and Vander Roest.

Delegates. — James Hunter, Jr., M. D., Westville, N. J., representing the Gloucester County Medical Society; Leonard Pearson, B. S., V. M. D., Dean Veterinary Department University of Pennsylvania, W. Horace Hoskins, D. V. S., and C. J. Marshall, V. M. D., all of Philadelphia, representing the Pennsylvania State Veterinary Medical Association.

Visitors. — Robert E. Mosedale, M. R. C. V. S., Bernardsville, N. J.; Henry J. Kohler, M. D. C., Trenton, N. J.; Wilmer B. Kille, V. M. D., Salem N. J.; William H. Paxson, V. M. D., Solebury, Pa.; Mr. Charles Grauch, third-year student U. of P., Mantua, N. J. Among others present were a representative of Truffle & Co., instrument makers, Philadelphia; Mr. Woodruff, of Parke, Davis & Co., Detroit, and Mr. Phelan, of the Norwich Pharmacal Co., of Norwich, N. Y.

The minutes of the semi-annual meeting held at Washington Park, N. J., July 13th and 14th, 1905, were read and approved.

PRESIDENT'S ADDRESS.

President Budd spoke extemporaneously, reviewing the accomplishments of the past year and then making his recommendations as to the work now in progress, together with that to be undertaken during the year 1906.

The President spoke earnestly in behalf of the bill to promote the efficiency of the veterinary service in the United States Army, and of the support that the American Veterinary Medical Association was giving to this measure. He urged every member of the Veterinary Medical Association of New Jersey to use his influence with his Congressman and the Senators from New Jersey for this bill to the end that it be passed at this session of Congress and placed upon the statute books. He stated that the Army Legislation Committee of the A. V. M. A., of which he was chairman, would go to Washington and speak for the bill before the committee, present to President Roosevelt the resolutions adopted by the National Association at Cleveland, and personally urge the President to approve the measure.

President Budd then referred to the importance and desirability of making the veterinarians of cavalry in this State commissioned officers, and of its failure in a previous attempt by not first obtaining the approval of the Military Board. The bill was introduced by Assemblyman Lord, and with the assistance of the Legislation Committee of this Association, passed through both houses of the Legislature, but when it reached the Governor it was vetoed because it had not first been submitted to the Military Board for its approval. The lesson to be learned from his experience was that no military bill could be made a law in this State without first having the approval of the Military Board. President Budd stated that he had already conferred with several members of the Military Board, and that they were in favor of making the veterinarian of cavalry a commissioned officer, so he thought that there would be no trouble now in getting the measure through.

President Budd declared that by far the most important matter before the Association at the present time was proper veterinary sanitary legislation in this State and thought that the time had arrived for the Legislation Committee to push the measure to establish a State Bureau of Animal Industry under veterinary direction as had been outlined by his predecessor in office and approved by the Association.

SECRETARY'S REPORT.

The Secretary presented a written report covering the work of his office during the past year as follows:

"TRENTON, N. J., Jan. 11, 1906.

"*Mr. President and Colleagues:*

"It is one year ago since I assumed the exacting duties of

the position of Secretary. A Secretary might get along by simply attending, in a perfunctory way, to certain prescribed duties, but if the correspondence of the Association is conducted in a manner to advance the profession, for the welfare of the Association and for the benefit of the public; if a comprehensive and readable report of our proceedings is prepared for publication in the REVIEW and elsewhere; if the records and minutes of the Association are properly kept; if committee meetings are attended; if the collection of fees and dues is properly attended to; and last, but most important of all, if a good programme is prepared, your Secretary has something to do that will prevent him from having many idle hours. However, all this can be done, and done well, if members will not forget or neglect to do their part in contributing to the end desired.

"We have now a membership of over one hundred. This membership is representative in character, coming from all parts of the State, and it is a very pleasant thing that we are so well and harmoniously organized. One hundred representative veterinarians, organized as we are, can do a great work in this State, but I feel that every well qualified veterinarian should do his part to promote the general good of the profession as a whole. Therefore, I would like to see every eligible veterinarian in the State a member of the Veterinary Medical Association of New Jersey. Cannot every member present here to-day consider himself a committee of one to bring in at least one new member at our next meeting? Then, again, every veterinarian ought to consider it an honor to be admitted to membership in the Veterinary Medical Association of New Jersey.

"During the past year two of our members have departed this life, namely, former President William B. E. Miller, who died March 2, 1905, and Dr. Edwin R. Odgen, of Orange, who died in September. Suitable action was taken in regard to Dr. Miller's death at our last meeting, and I have no doubt that the Association will pass resolutions in regard to Dr. Odgen's death at this meeting.

"I find upon examining the records that only about two-thirds of the members have signed the Constitution and By-Laws, as required by our By-Laws. Therefore, I would request that any members present who may not have signed them since the consolidation of the veterinary societies of New Jersey, to kindly step to the Secretary's desk and attend to this matter.

"I would like to take advantage of the opportunity to refer to another matter, and that is that my predecessor, Dr. Pope,

turned over to me a number of certificates of membership which I would like to get rid of and which no doubt those entitled to them would like to have. I therefore shall be glad to deliver them to those to whom they belong upon the recipients signing the Constitution and By-Laws in cases where they have not already done so.

"Prior to my incumbency as Secretary, the Secretary allowed the Treasurer to receive application fees and dues for membership. This practice I find is contrary to our By-Laws, so upon assuming my present duties as Secretary I requested our Treasurer to furnish me with the books or account showing such fees and dues as were owing the Association. Much to my astonishment, the sum total of these fees and dues up to date of Jan. 1st, 1906, amounts to over $650.00. On January 1st there were forty-four members owing two or more years' dues, nearly half of the amount mentioned being owed by twenty-one men in sums ranging from $10 to $21. It is poor business on the part of the Association to carry members on our books owing such large amounts. If they are not able, for any reason, to pay their dues, they should be remitted by the Board of Censors; but, on the other hand, if they are able to pay they should be required to do so, or else their names should be dropped. There is no use, and it is not justice to the men who do pay, for us to carry delinquents year after year.

"On January 1st I sent out bills and notices to every member of the Association, and I trust that members will kindly attend to this matter of dues promptly, so that the Association may have funds to go ahead with its legitimate work. At our next meeting I hope to be able to give a more encouraging report in regard to this matter of dues.

"It may be interesting to members of the Association to know that the State Board of Veterinary Medical Examiners has licensed twenty-two veterinarians since it came into power in 1902, thirteen of whom passed the Board during the year 1905. The next meeting will be held at the State House Jan. 26 and 27.

"New Jersey has not the representation she should have in our National Association. This is indeed regrettable, for she furnished nine charter members at the organization of the United States Veterinary Medical Association, at the Astor House, in New York, in 1863, being second only to that of New York State, which furnished fourteen charter members. The charter members from New York and New Jersey exceeded in number

those of all other States combined. The rest of the country furnished sixteen, making a total of thirty-nine charter members in all. The part that New Jersey veterinarians took at the organization of the United States Veterinary Medical Association is something we may feel proud of, but we should go further, and this Association should see to it that we are at least as well represented proportionately and otherwise in 1906 as we were in 1863. The present membership of the American Veterinary Medical Association from New Jersey is only twenty-five. The President of the A. V. M. A. has called for one thousand recruits, and I am desirous that New Jersey should furnish at least her proportion of new members. The initiation and first year's dues are $8. I have official blanks and I should be pleased to receive the applications of those who may desire to become members of the A. V. M. A. The next meeting will be held at New Haven; so New Jersey veterinarians will have no excuse for not attending.

"Secretary Pope remarked in his last annual report that one of the most trying tasks your Secretary has to perform is to prepare and arrange the literary part of our programmes. His criticism that we are weak scientifically is, in my opinion, a just one. We should strive to strengthen this part of our programme. We have a number of capable men, well qualified, both scientifically and practically, to contribute to our programmes, but it seems to be almost an impossibility to get some of them to prepare a paper. Some members make excuses and others will stay away from the meeting if the Secretary imposes a duty of this kind upon them.

"Probably there is no other member of the Association who has as good an opportunity of seeing the various styles of stationery used by members of the profession as your Secretary. I do not want to criticize, except for our good. Let me say, however, that if you desire to be regarded as professional men and maintain a proper dignity in the community in which you live one of the things you must not do is to use illuminated stationery that has cuts of yourself, or of any of the animals you treat, of a horse in slings and the like. All such stationery is calculated to lower you in the estimation of the better class of people, and instead of bringing you business it sometimes has the opposite effect.

"On the 15th of April next it will be twenty-one years since your Secretary and fourteen of his early professional associates filed with the Secretary of State at Trenton the certificate of in-

corporation of the Veterinary Medical Association of New Jersey, so I know that you will excuse any criticisms I have made in this report when you stop to consider that I feel a parental interest in this Association and am deeply concerned in all that appertains to its welfare and its advancement. As this Association will be of age the next time we meet I hope we may be able to celebrate the anniversary in a suitable manner.

"Mr. President, I appreciate the able support you have given me in the discharge of my duties, and I desire to thank you all for the assistance and encouragement you have given me at all times and under all circumstances.

"Respectfully submitted,

"WM. HERBERT LOWE, *Secretary.*"

On motion the report was received, ordered published and the Secretary given a rising vote of thanks.

TREASURER'S REPORT.

TRENTON, N. J., Jan. 11, 1906.

Receipts.

Balance on hand July 1, 1905	$195.45	
Cash received for dinners per J. M. M . . .	24.00	
Special fund, per J. M. M.	75.00	
" " by cash, W. H. L., July 14, '05.	35.00	
Dues, collected, per W. H. L., to July 14, '05.	54.50	
Dues collected, per J. M. M., to July 14, '05 .	23.00	
		$406.99

Disbursements.

William J. Thompson (Washington Pk. meeting).	194.70	
Dr. T. B. Rogers (Washington Pk. meeting).	8.71	
W. H. L., Sect'y's expense a/c to July 13, '05	9.23	
Frank Amiraux, typewriting	3.00	
Ernest W. Bogert, lettering certificates . .	4.00	
The Whitehead & Hoag Co., badges . . .	1.83	
Edward Sceery, floral piece, Miller funeral .	10.00	
Balance on hand, Jan. 1, 1906	175.72	
		$406.99

Respectfully submitted,

JAMES M. MECRAY, *Treasurer.*

On motion the Treasurer's report was referred to the Finance Committee.

REPORTS OF COMMITTEES.

Committees as follows reported :

Executive—Dr. E. L. Loblein, chairman ; *Public Health*—Dr. L. E. Tuttle, chairman ; *Animal Industry*—Dr. George W. Pope, chairman ; *Legislation*—Dr. William Herbert Lowe, chairman ; *Finance*—Dr. J. Payne Lowe, chairman ; *Publication*—the Secretary ; *Press*—the President ; *Prosecution*—Dr. T. E. Smith, chairman ; *Local Committee of Arrangements*—Dr. George F. Harker, chairman.

State Board of Agriculture.—The report was made by Drs. George W. Pope and George F. Harker, representatives of the Association on said board.

American Veterinary Medical Association.—Drs. Smith, Loblein, Glennon and President Budd were among those who reported the great Cleveland convention. Dr. Loblein told how gracefully Dr. Smith toasted "The Ladies." The clinic was described as the best ever held. Dr. Loblein remarked that he had performed operations since he returned home that he never attempted before. Dr. Glennon explained the quick and slow methods of administering anæsthetics to animals as demonstrated at Cleveland and thought that the quick method was quite as safe as the slow method. Every man who arose to speak of the Cleveland meeting took advantage of the opportunity to tell of the election of a Jerseyman to the highest position in the gift of the profession in America and of the honor reflected upon the profession in this State. Personal embarrassment is the only excuse your Secretary has for not giving a complete report of the speeches made.

Horse Shows.—Interesting reports were made of the National, the Atlantic City, Morristown, Long Branch, and Bernardsville horse shows. Among those who reported the shows were : Drs. Robert Dickson, T. E. Smith, Mecray, Mosedale, Tuttle, King, Vander Roest and President Budd. In speaking of the Atlantic City show Dr. Mecray remarked that the ladies as well as the horses were out ; Dr. Dickson speaking of the National show said that he did not approve of English judges judging American horses. President Budd acted as veterinary judge at the Atlantic City and Morristown shows.

NEW MEMBER.

Dr. Robert E. Mosedale, of Bernardsville, recently licensed by the State Board of Veterinary Medical Examiners, was elected to membership.

NEW BUSINESS.

Dr. Smith introduced an amendment changing the By-Laws, providing that hereafter all officers be elected for one year instead of for two years as at present. The amendment passed first reading.

Dr. McDonough moved that provision be made for a clinic at the next meeting; seconded and carried. Dr. Rogers recommended that the operations be demonstrated upon the cadaver.

The President appointed Drs. Robert Dickson, Height and King, a committee to arrange for the clinic.

The Pennsylvania State Veterinary Medical Association extended a cordial invitation through Drs. Pearson, Hoskins and Marshall, to the Veterinary Medical Association of New Jersey, to send delegates to their meeting, March 13th and 14th.

Dr. Pope moved that a list of members three years or more in arrears be furnished to the Committee on Delinquents. Carried.

The President appointed Dr. Pope on said committee in place of himself. The Committee on Delinquents now stands, Drs. Vander Roest, McDonough and Pope.

OBITUARY RESOLUTIONS.

The following obituary resolutions were presented by a committee appointed by the President for that purpose:

"WHEREAS, In the death of Edwin R. Ogden, D. V. S., of Orange, in September, 1905, this Association loses one of its old and active members, and

"WHEREAS, The members of the Association desire to place a testimonial of their regard for him, and an appreciation of his labors in behalf of the upbuilding of the profession; therefore be it,

"*Resolved*, That a page be set apart to his memory and that these resolutions be inscribed thereon, and that a copy of the same be sent to his family.

(Signed) "James T. Glennon,
"James McDonough,
"W. Runge. } Committee."

PAPERS.

Dr. John V. Laddey presented a paper on "Three Years Experience with Protective Inoculations Against Tuberculosis in Cattle by the von Behring Method*." A very instructive dis-

*Will be published in an early number of the REVIEW.

cussion followed by Prof. Pearson, Drs. Rogers, Tuttle and others.

Dr. L. P. Hurley, read a paper on "Milk Inspection," which was discussed by Drs. McDonough, J. Payne Lowe, Rogers and Marshall.

Upon motion, the Association gave Drs. Laddey and Hurley a vote of thanks for their excellent papers.

Dr. Hunter, of the Gloucester County Medical Society, was introduced and made a very instructive and entertaining address.

ESSAYISTS FOR JULY MEETING.

The President appointed Drs. Carroll T. Rogers, McDonough and Pope essayists for the next meeting.

Dr. Vander Roest moved that the semi-annual meeting be held at Asbury Park, July 12 and 13. After some discussion the motion was adopted.

On motion the meeting adjourned.

WM. HERBERT LOWE,
Secretary.

ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

This Association held its 23d annual meeting Dec. 19 and 20 at the Victoria Hotel, Chicago, Ill., and was called to order by the President, Dr. J. T. Nattress, at 10 A. M., Dec. 19.

The minutes of the previous meeting were read and approved.

Dr. Nattress then delivered the President's annual address, as follows:

PRESIDENT NATTRESS' ADDRESS.

"*Gentlemen:*—It is with pleasure that I bid you welcome to this the 23d annual meeting of this Association. The good book says that it is not good for man to live alone, and this wise saying applies with equal force to the professional man. He who wishes to keep himself abreast of the times and present-day events, should lose no opportunity to mingle freely with his professional brethren. By doing so, we receive new ideas along theoretical lines and also learn new technical methods of performing our every-day work, that often smooths the rugged pathway of every-day practice.

"Association meetings also enlarge our circle of acquaintances, have a tendency to break down the barriers of prejudice,

petty animosities, etc., and cement the bonds of friendship and benevolence among all its members.

"To say that I am highly pleased with the large attendance to-day, goes without saying, and I sincerely hope that not one of you will leave this meeting who does not feel that he has received some substantial benefit in the acquirement of new ideas, to more than repay the cost of attendance.

"Our profession to-day in this country is enjoying an era of prosperity hitherto unknown in its history, and this in spite of the almost innumerable attempts of the best mechanical talent in the world to so perfect the self-propelled vehicle that it would supplant our chief patient (the horse) as a means of draft. But, in spite of the boastful assertions of the 'gas-wagon' manufacturers, that the horse would soon become as scarce and rare as are his fossil ancestors, he has increased both in numbers and value, and to-day commands a higher value, both in dollars and in the affection of the people, than at any other period in the history of the world.

"During the past year there have been several important additions made to veterinary literature. Some of these works are of the greatest value to the practitioner. I have not the space here to mention even a partial list of these new books, but wish to particularly call your attention to the eighth revision of the U. S. Pharmacopœia, which has been but lately issued. This revised edition contains many important changes in the strength of pharmaceutical preparations that are largely used in veterinary medicine, and with which we, as a profession, should be familiar. This new pharmacopœia should be in the library of every veterinarian. We should study, and study hard, in order to keep up with the onward march of scientific progress.

"During the last session of our Legislature, an attempt was made to repeal entirely our existing veterinary law. This nefarious measure was introduced almost secretly and well toward the close of the session, and was made in the interests of that class of men who are without any qualifications whatever to entitle them to practice veterinary medicine and surgery, except in countries where no qualifications are required. This dastardly attack on our profession was quickly detected and as promptly killed by the energetic action of members of this Association, aided by the Board of Live Stock Commissioners and the Board of Veterinary Examiners, to all of whom the thanks of this Association are due, for their noble efforts in our behalf.

"This is the second attack to be made on our veterinary law since it was placed on the statute books. It should be taken as a distinct warning to this Association that during every session of the Legislature it should be the duty of every member of this Association to closely scan every bill introduced or brought up for discussion before the Legislature, so that no measure inimical to our interests be allowed to become a law. The Committee on Legislation of this Association is of vital interest to its well being, and should be composed of active, energetic men who will safeguard its interests against all unjust attacks that may be made upon our profession.

"Another matter of importance to which I wish to call your attention, is the large number of persons who are illegally practicing as veterinary surgeons in this State. It is a duty that we owe to ourselves and our profession to promptly report the names of all such illegal practitioners to the Board of Veterinary Examiners, and also lay the matter before the State's attorney of the county in which the illegal practitioner resides. In California the State Veterinary Medical Association prints a list of the illegal practitioners in the State, and issues a warning to them to discontinue practicing or prosecution will follow. I think this Association should take more energetic action in regard to the prosecution of illegal practitioners than it has done in the past. In many of the cases all that it is necessary to do to put the illegal practitioner out of business is to report him to the Board of Veterinary Examiners, who will promptly send a warning notice to discontinue practice or suffer prosecution. I think we should by all means assist our Board of Veterinary Examiners in enforcing the law.

"In the words of a celebrated Russian general, 'I regret to report' that the office of State Veterinarian of this State is still filled by a non-graduate practitioner, and this in spite of the roseate promises made by the politicians to this Association that they would do the 'right thing' by us. It is indeed humiliating when one stops to think that in all the great State of Illinois there is not a single graduate veterinarian who is considered by the politicians to be competent to fill this office. This is indeed a strange state of affairs, such as does not exist in any other civilized country in the world. Think of it; here we are living in the 20th century, a period noted for the rapid advancement of human knowledge in all its branches, with hundreds of millions of dollars invested in the live-stock interests of this State, with every facility for making original research in comparative

medicine offered by the great laboratories of the State University, and other kindred State institutions, and no one in the office of State Veterinarian competent to make even the merest superficial effort. When we look around us, what do we see in other States? In Pennsylvania, a Pearson; in Minnesota, a Reynolds; in Montana, a Knowles; in Louisiana, a Dalrymple, and dozens of others of our co-workers who fill the positions of State Veterinarian, and whose scientific investigations and bulletins are known throughout the world. Does any one present know of any scientific bulletins that have been issued from the office of State Veterinarian of this State during the past eight years? Please do not all speak at once.

"Not wishing to further encroach upon the time of the Association, the programme of which is large and varied, I will bring these few remarks to a close, by thanking all those who so ably assisted me in arranging the programme and attending to other minor details for this meeting; also to the faculty of the Chicago Veterinary College for the interesting series of clinics to be held there for your benefit."

THE ATTENDANCE.

The following members and visitors were present during the meeting:

Members.—Drs. J. T. Nattress, Delavan; C. G. Glendenning, Clinton; W. C. Galbraith, Wheaton; W. F. Scott, Oak Park; T. S. Hitch, Griggsville; S. H. Miller, Rock Island; A. N. Hughes, Galesburg; L. Kutzenberger, Jerseyville; Allie Tyler, Elgin; Thos. A. Newell, Chicago; Henry Deviett, Chicago; Chas. A. White, Chicago; Fred. H. Burt, Chenoa; E. A. Manuel, Des Plaines; Jas. Thom, Antioch; O. F. Butterfield, Libertyville; G. M. Predmore, Avon; F. E. Jones, Rochelle; A. C. Worms, Chicago; Jas. Robertson, Chicago; W. J. Martin, Kankakee; W. D. Linn, Holcomb; F. H. Ames, Canton; T. W. Corkery, Urbana; Jos. Smellie, Eureka; Geo. B. Jones, Sidell; E. S. Fry, Napesville; E. J. Cluts, Canton; J. H. Crawford, Harvard; R. F. Hoadley, Yorkville; J. M. Kaylor, Barry; E. F. Beckley, Rockford; C. C. Mills, Decatur; R. W. Story, Princeton; N. P. Whitmore, Gardner; A. G. Alverson, Bloomington; C. E. Hollingsworth, La Salle; M. A. Hollingsworth, Rock Island; C. E. Hayward, Mattoon; L. A. Merillat, Chicago; J. F. Ryan, Chicago; S. S. Baker, Chicago; A. H. Baker, Chicago; E. L. Quitman, Chicago; H. A. Pressler, Fairbury; Joseph Hughes, Chicago; C. F. Greiner, Chicago; L. C. Tiffany, Springfield; H. S. Singer, Cowden; W. W. Lichty, Woodstock;

A. M. Wray, Richmond; N. W. Kyle, Colfax; H. D. Chamberlain, Belvidere; C. A. Pierce, Elgin; J. M. Parks, Chicago; W. C. Hannawalt, Galesburg; F. A. Gibbs, Palatine; L. F. Miller, La Salle; F. J. McLaren, Joliet; C. L. Passmore, Huntley; F. B. Rowan, Belvidere; C. N. Spangler, Lockport; W. C. Hassell, Grayville; J. G. Hayes, Freeport; Matthew Wilson, Evanston; T. B. Brankin, Joliet; D. S. Jaffray, Jr., Chicago; G. W. Evert, Galena; J. R. Kelso, Chicago—(69.)

Visitors.—C. C. Lyford, Minneapolis, Minn.; J. F. Roub, Monroe, Wis.; W. H. Dalrymple, Baton Rouge, La.; J. M. Phillips, St. Louis, Mo.; T. E. A. Giller, White Hall, Ill.; W. C. Giller, Roadhouse, Ill.; P. H. Marsh, Tonkawa, Oka.; F. J. Bliss, Earlville, Ill.; F. H. Davis, Chicago, Ill.; R. R. Street, Chicago, Ill.; G. H. Glover, Ft. Collins, Col.; Alex. Eger, Chicago, Ill.; V. E. Koran, Chicago, Ill.; Wm. Myers, Ft. Wayne, Ind.; Geo. R. Weise, Princeton, Ill.; Warren B. Wise, Sheffield, Ill.; E. T. French, Warren, Minn.; Wm. Ebright, Hammond, Ind.—(18.)

READING AND DISCUSSION OF PAPERS.

Dr. W. C. Galbraith, of Wheaton, was first on the programme, with a very able article on "Inguinal Hernia in Stallions,"* which met with earnest discussion.

Dr. W. F. Scott, of Oak Park, then read a very practical paper on "Obstetrics."

Dr. W. F. Weere, of Ottawa, now followed with an extra good paper on "Nervo-Muscular Diseases Affecting Locomotion."†

Dr. E. F. Beckley, of Rockford, gave a very favorable account of the action of "Tallianine," with a detailed report of several cases.

Dr. James Smellie, of Eureka, read a very instructive paper on "Indigestion of Cattle," which was very earnestly discussed.

Dr. L. C. Tiffany, of Springfield, contributed a scientific paper full of interest on "Hæmorrhagic Septicæmia."

Dr. L. A. Merrillat, of Chicago, came next with an instructive talk on the subject of "Tetanus."

Dr. N. P. Whitmore, of Gardner, a paper on "Cirrhosis of the Liver."

Dr. Allie Tyler's (Elgin) subject was "Anthrax," in which he reported several recoveries from that dread disease.

* Published elsewhere in this number.

† Will be published in an early number of the REVIEW.

Dr. W. J. Martin, of Kankakee, contributed a very interesting article on "Gelsemium,"* detailing full information respecting this drug, and favorable reports from its use in his practice.

Dr. H. A. Pressler, of Fairbury, in a very elaborate and instructive article on the "Etiology of Azoturia"* suggested the *Strongylus armatus* as a probable cause of that disease.

Dr. J. H. Crawford, of Harvard, gave a couple of interesting case reports, one a large calculus and the other a stick of wood, both taken from the bladder of a couple of mares.

Dr. Geo. B. Jones, of Sidell, read a very interesting paper on "Lipomata or Fatty Tumor in Cows."

Owing to the delay in returning to the meeting from the clinics on December 20, two or three papers were omitted from the programme.

THE BANQUET.

At the banquet 43 were seated. Among the guests of the Association were Drs. C. C. Lyford, of Minneapolis, Minn., and W. H. Dalrymple, of Baton Rouge, La.

Dr. A. H. Baker, of the Chicago Veterinary College, acted as toastmaster, and called upon the following:

Drs. C. C. Lyford, Minneapolis, Minn; W. H. Dalrymple, Baton Rouge, La.; E. T. Frank, Warren, Minn.; J. M. Phillips, St. Louis, Mo.; S. S. Baker, Chicago; L. A. Merillat, Chicago; E. L. Quitman, Chicago; W. J. Martin, Kankakee; Jas. Robertson, Chicago; J. T. Nattress, Delavan; W. H. Welch, Lexington.

THE NEW MEMBERS ELECTED.

Twenty-six new names were added to the roll of membership, as follows: Drs. Fred H. Burt, Chenoa; Chas. A. White, Chicago; Thos. A. Newell, Chicago; J. M. Parks, Chicago; J. R. Kelso, Chicago; M. A. Hollingsworth, Rock Island; W. G. Hassell, Grayville; J. G. Hayes, Freeport; L. H. Miller, La Salle; G. W. Evert, Galena; C. H. Spangler, Lockport; W. W. Lichty, Woodstock; A. M. Wray, Richmond; H. D. Chamberlain, Belvidere; H. C. Singer, Cowden; F. E. Jones, Rochelle; G. M. Predmore, Avon; O. F. Butterfield, Libertyville; S. H. Miller, Rock Island; Jas. Thom, Antioch; Henry Devritt, Chicago; Allie Tyler, Elgin; L. Kutzenberger, Jerseyville; T. S. Hitch, Griggsville; E. A. Manuel, Des Plaines; A. N. Hughes, Galesburg.

*Published elsewhere in this number.

OFFICERS ELECTED.

The following were the officers elected for the ensuing year:

President—Dr. W. H. Welch, Lexington.
Vice-President—Dr. C. C. Mills, Decatur.
Secretary—Dr. F. H. Barr, Pana.
Treasurer—R. G. Walker, Chicago.
Board of Censors—Drs. Geo. B. Jones, Sidell; J. H. Crawford, Howard; M. Wilson, Evanston.

On taking the chair, the President appointed the following committees:

Committee on Programme.—Drs. W. H. Welch and F. H. Barr *(ex-officio)*, and W. J. Martin, J. T. Nattress, H. A. Pressler.

Committee on Arrangements.—Drs. W. H. Welch and F. H. Barr *(ex-officio)*, and C. C. Mills, A. C. Worms, C. G. Glendenning.

Committee on Legislation.—Drs. A. H. Baker, Albert Babb, E. L. Quitman.

OTHER BUSINESS.

An amendment to the Constitution and By-Laws was presented, changing the date of the semi-annual meeting from February to July.

The Treasurer's books were then audited and his report declared O. K.

The following bills were allowed and ordered paid: 1200 circulars, $5; stamps and mailing, $20; 700 programmes, $6.50; 600 circular letters, $3; stamps, $8; Secretary's fees, $10; legislation expenses, $6; banquet expenses, $10.50; total, $69.

The By-Laws were suspended in order that the next semi-annual meeting might be held in July, and a resolution to that effect was passed.

On motion, it was decided to hold the next semi-annual meeting at Bloomington in July.

On motion, a vote of thanks was extended to the essayists, the outgoing administration, the Chicago Veterinary College and the Victoria Hotel for contributing to the success of the meeting.

On motion, adjourned to meet in Bloomington in July, at the call of the President.

F. H. BARR, *Secretary.*

INDIANA VETERINARY ASSOCIATION.

This Association was called to order at the Capitol Building, Indianapolis, by President Anderman, of Hartford City, Ind., on Jan. 10, at 1.30 P. M.

Roll-call found thirty-two (32) present, and about seventy (70) visitors, nearly all graduate veterinarians. Minutes of the previous meeting read and approved.

The President's address was then delivered, after which the Secretary's and the Treasurer's reports were read and approved.

The Legislative Committee's report gave evidence of hard work by staunch men. They were given a rising vote of thanks and continued. A rising vote of thanks was also given Senator Keys, of Dana, Ind., and the Secretary was instructed to write the Senator, expressing the Association's action. (This was done Jan. 18, 1906.)

On motion by Dr. Roberts, of Indianapolis, the dues of this Association were raised from one to two dollars per year, and one dollar be set aside to form a fund to be used by the State Board of Veterinary Examiners for the advancement or protection of veterinary legislation. Carried.

ELECTION OF OFFICERS.

Dr. W. B. Craig, of Indianapolis, and Dr. J. W. Klotz, of Noblesville, were nominated for the Presidency; Dr. Klotz withdrew in favor of Dr. Craig, and his election was made unanimous.

Dr. J. C. Rodger, of Anderson, and Dr. Myers, of Ft. Wayne, were the nominations for the Vice-President's chair; Dr. Rodger declined, leaving Dr. Myers a clear field and an election.

Drs. Gibson, of Jamestown; Klotz, of Noblesville; Roberts, Muecke and Bronson were the nominations for Secretary; all declined, but the last named and he, protesting, was chosen.

Drs. Boor, of Muncie, and Klotz, of Noblesville, were the nominations for the Treasurership; Dr. Boor declined and Dr. Klotz was elected.

The President appointed a Board of Censors consisting of Drs. E. H. Pritchard, of Indianapolis; J. B. Archer, of Spencer, and J. C. Rodger, of Anderson.

NEW MEMBERS ADMITTED.

J. J. Hiday, Fortville, Ind. V. C., '03.
Homer Mueller, Paragon, McK. V. C. '04.
A. W. Stubbs, Shelbyville, Ind. V. C., '04.

A. H. Albersthardt, Indianapolis, Ind. V. C., '04.
F. F. Jacobs, Ind. V. C., '04.
A. B. Carter, Covington, Ont. V. C., '92.
Payso Schwin, Elkhart, Ont. V. C., '88.
C. S. Hess, Wabash, McK. V. C., '89.
H. A. Reed, Ft. Wayne, Boston, 1860.
F. H. Davis, Indianapolis, C. V. C.. '00.
E. D. Anderson, Meriton, McK. V. C., '04.
D. F. Shake, Carlisle, Ind. V. C., '02.
A. F. Nelson, Lebanon, C. V. C., '02.
W. W. Connor, Pendleton, Ind. V. C., '99.
F. Lett, Jr., Seymore, C. V. C., '02.
B. E. Stauffer, N. Manchester, C. V. C., '84.
C. F. Pangburn, Charleston, Grand Rapids V. C., '04.
C. E. Rice, Rockville, Ind. V. C., '99.

On motion, the President appointed on the committee to revise and draft new By-Laws, Drs. Anderman, Gibson, Roberts, Langtry, and Smock.

Dr. C. F. Stout having become a member of our Association, and having been declared a non-graduate by our State Board of Veterinary Examiners, was therefore ineligible to membership; his name was ordered dropped from the roll, on carried motion by Drs. Klotz and Myers.

LITERARY PROGRAMME.

Dr. R. A. Craig, of Lafayette, read a paper on "Control of Infectious Disease."

Dr. J. B. Young, of Stork, a paper on "Thoracic Choke."

Adjourned until 7.30 P. M.

Meeting called to order at 7.30 by President Craig.

A paper, "What Is It? or, His Trials and Troubles," by Dr. A. W. Stubbs, of Shelbyville, developed the fact that others were competent to have written on the same subject, both old and young.

Dr. J. W. Klotz, of Noblesville, gave us a paper on "Acetozone" as used by him, as an internal antiseptic in bowel disturbances.

Dr. Titus, of Lafayette, gave accounts of a number of cases, viz.: Multiple sarcoma in the abdominal cavity in a mule; strangulated hernia in an aged stallion; hydrocele in a three-year-old stallion; paralysis of the penis; plantar neurectomy; dislocation of both patellæ at the same time; mycotic gastro-enteritis in cattle.

A very interesting series of stereopticon views, with a short talk relative to each, was then given by Dr. R. A. Craig, of Lafayette; fifty odd slides were shown, the most of which were out of the ordinary, and all instructive.

At the conclusion of the above number, the society adjourned to the banquet room of the New Denison Hotel, at the invitation of the Indiana Veterinary College.

Responses to Toastmaster Craig were general and witty, making an ideal recreation after a hard day's business.

On the following morning at 9 o'clock a large attendance at the Indiana Veterinary College building, in East Market St., witnessed a very interesting assortment of clinics by our State practitioners, chief among which were: Operation for roaring, J. W. Klotz, of Noblesville; Oöphorectomy, by Dr. Titus, of Lafayette.

Other clinics caused time to pass pleasantly and with profit intellectually until 1 o'clock P. M. Thus closed the best meeting in every way of our history.

E. M. BRONSON, *Secretary.*

[NOTE.—The papers read at this meeting will be published as rapidly as possible.—EDITOR].

ONTARIO VETERINARY ASSOCIATION.

The annual meeting was held in the Veterinary College, Toronto, Ontario, on Dec. 22d, 1905.

The President, Dr. George, V. S., of Ingersol, opened the meeting at 11.15 A. M. He gave a short and interesting address, which was received with applause, and called for the order of business.

The Secretary reported a large number of letters from various sources, which had all been promptly attended to. As Registrar he had registered and sent certificates of registration to seventeen graduates since the last annual meeting.

As Treasurer he read over the list of receipts and expenditures during the past year, showing the finances in a favorable condition.

The following new members were duly proposed and elected: Dr. A. McFadden, Dr. MacCormack, Dr. T. H. Richards, Dr. McTavish, Dr. C. S. Macdonald, and Dr. J. A. Campbell.

Dr. R. Barnes read an excellent report of the summer meeting held in London, which was a two-days meeting, and was very successful and satisfactory. The whole of the labor and

expenses of it, with the exception of a small sum for printing, postage, etc., being sustained by the resident practitioners of London.

The President, Dr. George, gave an interesting account of "Contagious Abortion in Cattle" and the difficulties in arresting it. Col. Lloyd, V. S., also spoke of the same trouble and coincided with the ideas expressed by Dr. George. A discussion on this condition followed, in which Prof. J. H. Reed, of the Guelph Agricultural College, and Dr. Mole were prominent.

The meeting adjourned for luncheon at the invitation of Prof. Andrew Smith.

The meeting opened after luncheon at 1.35 P. M., the President, Dr. George, in the chair, and the election of officers for the ensuing year then took place, with the following result:

President—L. A. Wilson, of Aurora.

First Vice-President—J. W. Orr.

Second Vice-President—O. H. Duncombe.

Secretary-Treasurer—C. Heath Sweetapple.

Assistant Secretary—R. Barnes.

Directors—W. Nicholls, A. McFadden, C. Brind, F. G. Hutton, W. Davidson, T. Babe, J. A. Tancock, and C. Elliott.

Delegate to the Toronto Industrial Club—Prof. A. Smith.

Delegates to the Western Fair, London—J. D. O'Neil and W. J. Wilson.

Auditors—C. Elliott and J. H. Reed.

It was resolved that the sum of $25 should be appropriated for a medal to be competed for by the students of the graduating class of the Ontario Veterinary College at the coming spring examinations.

The President, Dr. George, in a few well-chosen remarks, vacated the chair, and called on the President-elect, Dr. L. H. Wilson, to assume the duties of his office.

Dr. L. H. Wilson, on taking the chair, warmly thanked the members for the honor conferred on him, and promised to do all in his power for the best interests of the Association and for the profession at large. He proposed that a vote of thanks be tendered to Dr. George for his able conduct in the chair during his term of office. He then called for the report of the Veterinary Organization Committee.

Dr. C. Elliott, as Chairman of the Veterinary Organization Committee reported that the Committee had met twice since the last annual meeting on Nov. 8. The address which he then read was drawn up by Dr. Rutherford, Veterinary Director-

General of the Dominion of Canada, and endorsed by the members of the Committee. Arrangements had been made for the members of the Committee to meet the Hon. Nelson Monteith, Prov. Minister of Agriculture, on that day at the Parliament Buildings, Toronto.

The Committee were cordially received by the Hon. N. Monteith, and Dr. Rutherford, in a few well-chosen remarks, presented the resolutions drawn up. The Hon. Minister of Agriculture gave most courteous attention to the address, and promised to give the matters contained therein his earnest attention.

Several members took part in the discussion that followed, and it was explained that the matter was now in the hands of the Minister of Agriculture.

Dr. Bowlby read an interesting paper on "Phymosis and Paraphymosis in the Horse,"* and described several cases in his practice.

Dr. Short contributed a paper on "Epizoötic Cellulitis."

Dr. Duncombe described a case of difficult parturition caused by torsion of the uterus that he had met with in the course of his practice.

Dr. Babe described a case presenting rather peculiar symptoms, the post-mortem examination revealing impaction of the stomach, and rupture of it and the diaphragm.

Dr. L. H. Wilson gave an account of a number of cases of poisoning in cattle by the tobacco plant. A large number of cattle were affected. In fact, all the cattle that were in the same pasture evinced symptoms of its effects.

All these papers elicited interesting discussions. And the thanks of the meeting were tendered to the contributors for their valuable assistance in making this meeting both pleasant and profitable.

A resolution was passed that a meeting of the Association should be held in Guelph, Ont., in the course of the coming summer—and the following gentlemen volunteered to perform operations: Dr. Mole, an operation for roaring; Dr. John Wende, castrating a ridgling; Dr. Quinn, castrating a ridgling; Dr. Rudd, caponizing; Dr. Buchanan, ovariotomy on the bitch.

The meeting adjourned.

C. HEATH SWEETAPPLE, *Secretary.*

* Published elsewhere in this number of the REVIEW.

COLORADO VETERINARY MEDICAL ASSOCIATION.

The third annual meeting was held in Denver, Jan. 2, 1906.

The following officers were elected for the ensuing year:

President—Chas. G. Lamb.

Vice-President—A. J. Savage, Colorado Springs.

Secretary-Treasurer—M. J. Woodliffe, Denver.

Directors—Drs. Mark White, Jr., Denver; Robt. H. Bird, Greeley; Geo. W. Dickey, Colorado Springs; John E. Topping, Pueblo.

It was the sense of the meeting that Drs. White, Lamb, Glover and Culver visit the next meeting of the A. V. M. A. at New Haven, Conn., and invite the Association to hold its 1907 meeting in Denver, Colo.

The Association passed the accompanying resolution to be printed in the daily papers.

"*We, The Colorado Veterinary Medical Association* (comprising all of the graduated, recognized and licensed veterinarians practicing in the State of Colorado) do hereby feel it our duty to the people of Colorado, to warn them against being imposed upon by non-educated, non-graduated, non-recognized and non-licensed men now representing themselves to the people of Colorado as veterinary surgeons, dentists, canine specialists or hospitals for dogs, and in so doing deceive the public by pretending to be what they are not. Any thinking person knows that it requires fully as much education to be qualified in veterinary medicine as in human medicine.

"Unfortunately it is impossible to furnish the public with the names of all such unlicensed men; but we can furnish below a list of all the graduated, recognized and licensed veterinary surgeons or canine specialists now practicing in Colorado:

"Dr. Mark White, Denver, Colo.
"Dr. Chas. G. Lamb, Denver, Colo.
"Dr. M. J. Dunleavy, Denver, Colo.
"Dr. M. J. Woodliffe, Denver, Colo.
"Dr. Emile Pouppirt, Denver, Colo.
"Dr. S. E. Bock, Denver, Colo.
"Dr. Sol Bock, Denver, Colo.
"Dr. W. W. Yard, Denver, Colo.
"Dr. W. E. Howe, Denver, Colo.
"Dr. W. F. Gross, Denver, Colo.
"Dr. A. B. McCapes, Longmount, Colo.
"Dr. F. W. Culver, Longmount, Colo.

" Dr. H. R. Thompson, Pueblo, Colo.
" Dr. John E. Toppin, Pueblo, Colo.
" Dr. A. J. Savage, Colorado Springs, Colo.
" Dr. Geo. W. Dickey, Colorado Springs, Colo.
" Dr. I. B. Rivenburgh, Leadville, Colo.
" Dr. James Ritchie, Leadville, Colo.
" Dr. Seth P. Talbot, Rocky Ford, Colo.
" Dr. R. N. McCarroll, Ft. Collins, Colo.
" Dr. Geo. H. Glover, Ft. Collins, Colo.
" Dr. Harvey Bowles, Cripple Creek, Colo.
" Dr. Robt. H. Bird, Greeley, Colo.
" Dr. John Hall, Eaton, Colo.
" Dr. Jas. W. Thompson, Monte Vista, Colo.
" Dr. A. P. Drew, Grand Junction, Colo.
" Dr. M. W. Broch, Denver, Colo.
" Dr. E. J. Foreman, Trinidad, Colo.

" Names not appearing above are without license and are not recognized practitioners and do not hold diplomas; therefore, should not be encouraged in their work.

" [Signed] *Colorado Veterinary Medical Association.*"

The meeting was well attended and many interesting discussions were held.

The veterinary profession in Colorado has been considerably benefited by our law since its passage and we all hope that in the near future we will get an amendment to it that will make it as good, if not better than any in United States.

The meeting adjourned to meet at the call of the President and Secretary.

M. J. WOODLIFFE, *Secretary and Treasurer.*

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting was held at Young's Hotel, Boston, Wednesday evening, December 27th, 1905, at 8 o'clock. There were thirteen members present. On motion of Dr. Pierce, seconded by Dr. Playdon, the minutes of the previous meeting were accepted as read. One application for membership was referred to the executive committee.

Dr. Daniel Lee read a paper on " What Relation Does the Use of Salt upon Streets Bear to Diseases of Horses Feet?" Discussion followed, which proved of interest to all.

Mr. Lang, of the M. S. P. C. A. Society, was the guest of the evening, and spoke in an interesting manner.

On motion of Dr. Winchester, seconded by Dr. Babbitt, it was voted to instruct the Secretary to correspond with the different veterinary associations of New England in regard to the meeting of the American Veterinary Medical Association, to be held in August at New Haven.

Dr. Pierce moved, seconded by Dr. Watson, that a vote of thanks be given to Dr. Daniel Lee. Carried. Adjourned 10 P. M.

F. J. BABBITT, *Secretary.*

MAINE VETERINARY MEDICAL ASSOCIATION.

The regular meeting was held at the Cony House, Augusta, Jan. 8, at 8 P. M. In the absence of the President, on motion of Dr. Joly, Dr. Russell was elected President *pro tem.* Minutes of the April and October meetings were read and approved. Members present were: Drs. Lord, Portland; McGillicuddy, Bath; F. E. Freeman, Rockland; Dwinal, Bangor; Blakely, Augusta; Darling, Belfast; Russell, Orono; Joly, Waterville, and R. E. Freeman, Dexter.

Herbert J. Pugesley, of Ashland, made application for membership; referred to Executive Committee. The next business was the election of officers for the ensuing year. On motion of Dr. Joly, Dr. C. L. Blakely, of Augusta, was nominated for President. Drs. Darling and McGillicuddy were appointed to receive and count the votes. The result was as follows:

President—Dr. C. L. Blakely, Augusta.

Vice-President—Dr. C. H. McGillicuddy, Bath.

Secretary—Dr. R. E. Freeman, Dexter.

Treasurer—Dr. I. L. Salley, Skowhegan.

Executive Committee—Drs. F. L. Russell, Orono; F. E. Freeman, Rockland; J. B. Darling, Belfast.

It was moved by Dr. Joly that Drs. Russell, Potter and Salley be appointed as a Prosecuting Committee on our new veterinary law. Carried. Remarks on this Committee were made by Drs. Russell, Freeman, Lord, Blakely, Darling and Joly.

Dr. R. E. Freeman read a page on "Acute Indigestion," * which was freely discussed by all members present. Dr. Joly was excused from reading his paper on a promise to read one at the next meeting.

Prof. Russell made some very interesting remarks on hog cholera.

*Will be published in an early issue of the REVIEW.

Dr. Lord reported an interesting case where he performed Cæsarian section in the cow, with very good results.

Dr. Darling's case report was fully discussed.

Ovariotomy in all animals was discussed by all members present.

Moved by Dr. F. E. Freeman that the Association meet in Belfast on the second Wednesday in April; also that Dr. Darling furnish us with a clinic. Carried. Papers to be read by Dr. Joly and Dr. F. E. Freeman, and Dr. Salley and Murch to read communications.

Meeting adjourned at 11 P. M.

R. E. FREEMAN, *Secretary.*

KANSAS STATE VETERINARY MEDICAL ASSOCIATION.

We had a grand meeting at Topeka on Jan. 10th, there being about fifty veterinarians in attendance. We had a very interesting programme, and each subject was well discussed. Every one present seemed to be much enthused and were unanimous in demanding a two-days' meeting and a banquet for next year. It was decided that our last year's legislative bill was an exceedingly good one, and will make a greater effort than ever to secure its passage at the next Legislature, which meets in January, 1907. There were no changes made in the officers.

At the clinics, which were held at Drs. Pritchard and Knisely's infirmary, Dr. D. O. Knisely demonstrated a new stomach tube that certainly excels any other ever put upon the market. This tube is Dr. Knisely's invention and is not yet on the market; it is a double tube, is passed per orem; water is forced in through a small tube, the lumen of which is about half an inch in diameter; the contents of the stomach are thereby forced out through the larger tube, which is nearly one inch in diameter. After seeing this tube demonstrated nearly every one present wished to place an order for one. We predict a great demand for this new instrument.

Our third annual meeting will be held in Topeka, Jan 8-9, 1907.

The Association is now in fine shape for a growth in membership and interest, and we certainly congratulate ourselves on receiving the help of such men as Drs. F. S. Schoenleber (State Veterinarian), Dr. Moore, of the K. C. V. C., and Dr. F. L. DeWolf, of Topeka. Kansas is always at the front in any

undertaking, and now we veterinarians of Kansas are determined that she shall forge to the front in the veterinary profession. We think no State association ever grew faster than ours; in two years' time we have 50 per cent. of the practicing veterinarians in the State as members, and in another year we will have 75 per cent. as members. *Watch us.*

HUGH S. MAXWELL, *Secretary.*

TEXAS VETERINARY MEDICAL ASSOCIATION.

Secretary E. L. Lewis asks us to announce that the next meeting of this Association will occur at the Fair Grounds, Dallas, on March 20.

GENESEE VALLEY VETERINARY MEDICAL ASSOCIATION.

The ninth annual meeting was called to order by President A. McConnell, Thursday, Jan. 11th, at 11 A. M., in Masonic Temple, Rochester, N. Y., and the following members responded to roll-call: L. R. Webber, O. B. French, A. McConnell, J. H. Taylor, P. S. Johnson, A. Geo. Tegg, G. C. Kesler, Nelson N. Lefler, D. P. Webster, Warren E. Stocking, W. J. Payne, J. E. Smith, F. D. Holford, H. S. Beebe, John W. Corrigan, William F. Woolston, W. G. Dodds. Visitor: Dr. W. L. Baker, of Buffalo.

Minutes of the last meeting were read and approved.

The Secretary reported a membership of twenty-four in good standing, eight having been suspended for non-payment of dues.

After some routine business the following gentlemen were elected as directors: J. H. Taylor, O. B. French, Warren E. Stocking, G. C. Kesler, J. E. Smith, H. S. Beebe, A. Geo. Tegg, D. P. Webster, W. J. Payne, A. McConnell.

A short recess was then taken to allow the Directors to elect officers. The following were elected:

President—Dr. H. S. Beebe, of Albion.

Vice-President—Dr. Warren E. Stocking, of Medina.

Secretary—Dr. J. H. Taylor, of Henrietta.

Treasurer—Dr. A. Geo. Tegg, Rochester.

The remaining six Directors constitute the Board of Censors.

The Treasurer reported a balance of $109.41.

Meeting was again called to order by President Beebe, when Dr. G. C. Kesler read the following very practical paper on

"SHOULDER SLIP OR SWEENY."

"This is a very common form of lameness in the country, especially in young horses. The muscles affected are the antea and postea spinati, teres externus and sometimes the flexor brachii. Generally caused by an injury, a sudden blow or the concussion resultimg from the plow striking a root or stone, or from the excessive pressure of the collar in turning a heavy roller one way all day, especially if the collar is large, thus allowing it to press on the supra-scapular nerve, causing more or less injury, resulting in atrophy of the above-mentioned muscles.

"*Treatment* is what interests me most. It is counter-irritation, but what form will restore the muscles to their normal condition in the least time? I have used liniments, blisters and setons, with unsatisfactory results. For three years I have been using subcutaneous injections of nitrate of silver, five grains to an ounce of distilled water. I inject one-fourth drachm of this solution every two or three inches the full length of the atrophy; this is repeated every two or three weeks until the atrophied muscles are restored.

"In treating over twenty cases I have had but one small abscess, and this, I think, was due to a lack of cleanliness in making the injection."

Dr. J. W. Corrigan had used a saturated solution of sodium chloride and had bad abscesses in each case; had obtained good results by subcutaneous injections of turpentine.

There was a general discussion on this paper.

Dr. L. R. Webber then read an excellent paper on

"PUNCTURED WOUNDS OF THE FEET."

"When I told our Secretary I would write a paper on the subject 'Injuries to the Foot,' I thought at the time, that's easy, but when one reflects for a moment, he has about as hard a problem as he can find, and at the same time one could not pick out a subject that the layman thinks he can treat as well as he can wounds to feet; such as calks and nail wounds in particular. If a professional man has a serious one that sticks a little, every person, hostler and owner, will constantly repeat to him cases that he had and treated with this, that, and the other, and had no trouble at all, horse only in barn one day, etc. That goes down hard, especially if you have one that has been in for a week to six months. The very nature of the construction of the horse's foot, the delicate and vascular structures of the tissues entering into the formation of the soft parts thereof, con-

fined as they are within the horny hoof. This is the condition which makes wounds of this organ more or less painful and troublesome, calling for a treatment more or less practical and scientific, according to nature and location of the wound.

"There is another thing that has to be given consideration in the treatment of these cases; it is a hard pill to swallow, but if you are successful in curing your patient and sometimes even holding the patron, you must consider the best thing to do that the attendant will be sure to do right.

"Treatment should be free drainage and antisepsis. If you are called to a case that has just picked up a nail, apparently a bad puncture, be careful in your prognosis, as sometimes they amount to nothing, and on the other hand one has a case that looks so trivial, he is tempted to say it amounts to nothing and possibly it takes weeks or months to get horse to work.

"We must use lots of knife in some cases, in others very little; harm very seldom comes from the knife if the healthy tissues are not injured; in such cases granulation is very hard to control. Then the old flaxseed poultice; you all know how it is condemned, but somehow I cannot get along without it in some cases, either for the owner's sake or the foot. Bichloride packs take the place of poultice finely; in case of much supuration should be changed often.

"Then comes antiseptics. Iodine sometimes pure, or one to sixteen, for the owner to inject. Iodoform ether is one of the very nice things to use, because it penetrates wherever there is a crack or crevice and quickly evaporates and leaves a layer of iodoform, boracic acid. In some cases where you have a puncture around the point of the frog and out as far as the toe, you have the sole of the os pedis injured; you have a very trivial wound; you do not see why it does not heal; no pus, just a little serum; you think it is all healed, but still there is a slight lameness; you probe again and find a little dampness, you keep on probing and injecting this and that and you say all the nice things to the owner you can think of to keep up his courage, and finally you probe once more and feel apparently a foreign body; a pair of forceps are brought into play and you remove a piece of bone (just like a washer), the hole in the centre corresponding with the puncture; you have no more trouble. These cases take weeks and sometimes months. Open bursa almost always loses your customer; it looks so simple and results are so serious—a great many times death and a big bill, or a lame horse after treatment of three or six

months. Some of these cases treat finely if we get them at once and observe strict antisepsis. I could probably write more and enumerate different injuries and treatment, but I have said enough to get up a discussion, I hope, and if so I am satisfied."

Dr. W. L. Baker was invited to open the discussion. He condemned the use of the poultice, favored the use of oakum packs soaked with some antiseptic after securing free drainage by the free use of the knife.

Dr. Corrigan used the antiseptic oakum pack after freely opening up the wound. Used poultices to facilitate the removal of diseased tissue.

Dr. Beebe expressed his firm belief in the free use of the knife and antiseptic pack, covered with a strong bandage of burlap or canvas, this to be renewed as often as necessary, the pack to remain four or five days unless the lameness increased, when the pack should be removed, the wound cleansed with antiseptics and packed as before.

Dr. Taylor spoke of some cases of open synovial bursa where there was a free flow of synovia at first; the cases made a rapid recovery and they seemed to make a more rapid recovery under the use of a 10 per cent. solution of silver nitrate than under the use of any other antiseptic. This seemed to render the parts aseptic, and coagulate the synovia, forming a clot which prevented the flow of synovia. If infecting material was carried into the bursa or joint by the puncturing instrument and was not washed out by the flow of synovia, there certainly would be unfavorable results. He favored free drainage in all cases of punctured wounds of the foot.

Dr. Tegg used the knife freely, followed with antiseptics; soaked the foot in hot water persistently where lameness was severe.

Dr. J. E. Smith then read the following paper on

"THE HISTORY OF THE HORSE."

"There seems to be a growing tendency among people to have what might be called a family history; some people go to considerable expense and trouble to discover some ancestor who might have played some prominent part in the upbuilding of our country, and, alas, sometimes find a horse thief who died on the gallows.

"The few who might be fortunate enough, if we may call it that, to find themselves descendants of some of the pioneer settlers, or some that have helped make this country what it is, a

free and independent republic, make much of it, and have formed clubs and societies where only those of the bluest blood are admitted.

"This, however, has nothing to do with our topic; it simply illustrates that small and insignificant happenings or incidents make history; it also illustrates that the human mind dwells more upon the past than what might be the future.

"Everything has a history, and mankind is, so to speak, the leading actor; the closer any subject may be connected with man, or the leading actor, so much more prominent will the part appear in history.

"The Bible, which might be called the oldest historical book, says that when God had created the earth, with everything on it, he created man and placed him in charge of every living animal; when man selected the horse as a domestic animal, and history teaches us that he did so very early, he certainly showed good sense, if he never has since then.

"Egypt, whose history extends as far back as man can remember, is probably the first country where the horse was used on carriages or chariots, as they were called then, and we find many engravings or carvings on some of the ancient monuments of Egypt to that effect.

"When history first mentions Egypt, it was the leading nation and some of its rulers, on some of their trips of conquests to other lands, have no doubt brought the horse from Arabia, which is probably the birthplace of the horse. It is there where the horse receives the kindest and most careful attention.

"The true Arab thinks more of his horse than he does of his family; the horse is in fact considered a member of the family and treated as such, and it is there where we have always found the purest and the most thoroughbred of the horse family. This teaches us that kind treatment has much to do in the raising and bringing up of the horse.

"We might follow the history of those ancient empires, the Egyptians, the Macedonians, the Greeks, and the Romans, and very closely connected with them we find the history of the horse. The horse was in their battles and it was with them in their sports. The first horse races were held perhaps at the Olympian games.

"It was on the battle field of the Greeks where we hear of the first wooden horse; it was not a saw horse and it was rather lively inside, which was no doubt discovered, but too late, after the Trojans had brought it within their city walls and the men

crawled out of its body during the night to let their friends into the city.

"Since then the horse has been brought to many uses as well as abuses, and we might say that there is no animal that is found to prosper in so many different countries, under so many different climates, and conditions, and is made so universally useful as the horse. We find it before the carriage of the king as well as the cart of the beggar; he is found up in the mountains and down in the valleys; he is found the pet of the family and the drudge of the cartman; he begins his career as the pride of some millionaire, finishes before the cart of the rag-pickers and ends in the sausage-maker's shop, to be hung in his window in the shape of garlands of nice plump sausages.

"The history of the horse is so closely connected with the history of man and the general facts are so well known, that little can be added that may be interesting. We would rather like to know what may be the future, especially when we think of the inventions of late years, tending to take the place of the horse.

"It was only a few years ago, when everybody predicted that the bicycle would make horses a drug on the market; soon after, the old horse car was displaced by the trolley car and everybody thought this would be the death blow to the horse-breeding business. Instead of seeing horses running around loose like dogs without owners, as some have predicted, we find the value of the horse higher than ever before. Will the automobile do what the bicycle or the trolley car could not do? Nobody can look into the future, but there is an old saying, 'History repeats itself.' In ancient history we find that the horse was not as common as it is now, but it was a purer breed; every horse had what so many of the would-be aristocrats so much desire, a family tree. The origin of each horse could be traced back for generations to one of a purer vein of blood than any of its descendants, and this family strain was kept as pure as the family of royalty. Who can tell but this may come true to some extent in the near future? There is no doubt, it will be a question of time when the horse will not be what it is now — an animal of burden and labor, but rather an animal for pleasure, and who would rather not ride behind a high-spirited, intelligent animal than on top of a smoking, puffing and roaring machine, that is likely to land you at the foot of an embankment with every rib staved in, or will come to a dead stop, where nothing but the assistance of the poor down-trodden horse will move it along to the next repair shop."

THE BUFFALO MEETING OF THE N. Y. S. V. M. S.

Dr. W. L. Baker, Chairman of the Committee of Arrangements of the New York State Veterinary Medical Society, spoke in the interest of the meeting to be held in Buffalo, Sept. 11-12-13; he urged all to attend and do all in their power to make this the banner meeting of the Society; hoped every member of our Association would present their application for membership. Dr. Tegg responding, thanked Dr. Baker for the invitation, and promised him the hearty support of this Association, and hoped that some definite arrangements could be made at our semi-annual meeting in July to assist in the programme, and also the clinics. Dr. P. S. Johnson then read a very interesting report of a case of "Melanotic Sarcoma." Drs. A. Geo. Tegg, J. H. Taylor and Warren F. Stocking, were appointed as Legislative Committee.

Drs. L. R. Webber, J. E. Smith, and G. C. Kesler were appointed as a committee on clinics for our July meeting.

Receipts of the meeting $28.00. J. H. TAYLOR, *Secretary.*

DR. W. T. MONSARRAT, of Honolulu, Hawaii, writes that he is already laying plans to attend the New Haven meeting of the A. V. M. A. in August, bringing with him Mrs. Monsarrat and his son. His fellow-members, particularly those who basked in his Minneapolis smile, will greet him with the cordiality extended to the prodigal son of history, while his little family will find warm hearts to welcome them.

LIABILITY OF A CASTRATOR.—A castrates B's colt, and charges B $2 for operation. Colt died. 1. Is A liable for damages under the laws of Alberta, A having no license? If so, to what extent is he liable? 2. If colt had not died, would he be liable to be fined for operating without license? If so, what would fine be? W. L. J. *Answer.*—Castration and dehorning are exempt from the working of acts, statutes or ordinances regulating veterinary practice, and rightly so, consequently the answer to both questions is no. A similar case was tried recently at Carman, and the farmer suing lost. The Act regulating veterinary medicine and surgery in Manitoba is a better and more up-to-date piece of legislation than in any other province in Canada; yet, the operations referred to above are exempt. If a farmer will take, or is forced to take, the risk of employing a man with a limited knowledge of surgery and surgical practices, he unfortunately is one who must suffer.—(*Farmers' Advocate, A. G. Hopkins, D. V. M., Editor.*)

NEWS AND ITEMS.

DR. J. A. MCLAUGHLAN was elected President of the Rhode Island Veterinary Medical Association at its annual meeting on Jan. 18. Full report will appear in the March REVIEW.

DR. J. HUME CARTER has left Mount Holly, N. J., and gone to Lexington, Ky., to take charge of a stock farm for Mr. Perry Belmont. Dr. A. A. Moody, of New Egypt, N. J., succeeds Dr. Carter at Mount Holly.

THE STUDENTS' ASSOCIATION of the New York State Veterinary College will hold its annual banquet on the evening of the 21st inst., and a number of prominent veterinarians have been invited to the feast of food and reason.

VERSATILE DR. DALRYMPLE read a paper entitled "The Intelligent Management of Our Plantation Stables" before the Louisiana Sugar Planters' Association on Jan. 11, which was well received and printed in the *Louisiana Planter* of 13th ult.

WE are in receipt of a pleasant letter from Dr. A. H. Waddell, who has taken medical charge of the large breeding establishment of Mr. J. B. Haggin, at Elmendorf, Ky. This extensive stud has nearly 9,000 acres and about 1,500 horses. He promises a description of the place and the system of breeding for the REVIEW in the near future.

E. H. BAYNES, Meredith, N. H., Secretary of the American Bison Society, has reared by hand and broken to yoke and harness two buffalo calves, with a view to creating additional interest in the national movement now on foot to save the buffalo from extinction. These calves are intelligent, and have much greater strength and speed than most domestic steers of the same age.

THE WHALE AS A VETERINARY PATIENT. — Veterinary Surgeon Desmond, of Adelaide, South Australia, writes, under date of Dec. 12: — "By last mail I sent you a local paper with a skit on milking whales in America [published elsewhere]. Veterinarians will now have to take up new studies, as they may be called on to treat the leviathan of the mighty deep for mammitis or parturient apoplexy."

DR. THOMAS BLAND, Waterbury, Conn., has been appointed member of the Board of Public Health of his city. This is as it should be, and we congratulate Dr. Bland upon his opportunity to set an example to similar Boards to include in their membership representatives of the veterinary profession,

who alone can supply such bodies with competent information in regard to veterinary matters which enter so largely into the question of the healthfulness of cities. Peter T. Keeley, V. S., was appointed milk and food inspector by the same Board.

THE ARMY VETERINARY BILL. — Just as the REVIEW went to press for this number, a hurried message from Dr. Charles H. Jewell, of Fort Riley, Kansas, brought the news that the Army Veterinary Bill was introduced in Congress on January 29. This action was anticipated in our editorial in the "Army Veterinary Department" in this issue, and its status is there more fully explained. Every veterinarian in the country, should now get busy with his Congressman and Senators to secure their votes in its behalf. It is modest and reasonable, and embodies the tardiest justice that was ever sought by a worthy cause. Committees of veterinary associations, it is now that the duties imposed by your existence are incumbent upon you. Pull all together, and victory is certain.

SHETLAND PONIES.—In response to inquiries from the United States about Sheland ponies, Consul Higgins, of Dundee, furnishes information that will interest those contemplating investments in those animals. The facts presented by Consul Higgins were obtained from Consular Agent Murray, of Aberdeen, in whose district the Shetland Isles are included. It appears that the breeding of Shetland ponies is quite general in Great Britain. Through the persistency of Mr. R. W. R. Mackenzie, of Earlshall, in Fifeshire, what might be called headquarters for the breeding and sale of ponies has been established at that place, and for three years the most extensive pony sales of Scotland and Northern England have been held there. An analysis of the sales shows that mature ponies of good form bring high prices, ranging from $200 to $500. For inferior grades the prices are proportionately lower. For foals prices are almost nominal, even when the blood is of acknowledged merit. It would seem that the annual sales at Earlshall could be profitably used by Americans who wish to establish in this country a herd of Shetlands. Many of the ponies exhibited at the sales are models of beauty, and their performances in the ring show fine trotting action and good speed for their size. Mr. Mackenzie, in a letter to Consular Agent Murray, states that the price of ponies ranges from £3 ($14.60) to £100 ($486.65) each. The latter price should be for a very superior stallion. Orkney and Shetland are adjacent islands lying northeast of Scotland. They are sterile, treeless and wind swept, but the

climate is comparatively mild owing to the influence of the Gulf Stream. To Consul Higgins Mr. Mackenzie writes:—"It seems to me the lesson to be derived from the Earlshall sales is that there is still a demand for ponies of the highest merit and best blood, while for the general utility pony or commoner the market is diminishing. This is partly due to the fact that many of the thin coal seams in the Durham district, where these ponies were very largely used in recent times, have now ceased to be worked, and larger ponies are employed where the works are high enough to admit them. While this is so, my increasing average encourages me to go on breeding the best. Experiments I have made in crossing the pure Shetlander with some of our larger breeds convince me that there is a future for the breed in this direction."

WIPE OUT ANIMAL DISEASES.—In the article by Dr. A. D. Melvin, newly appointed Chief of the Bureau of Animal Industry, published in another section of this paper to-day, a brief statement is made of the good work that has been done by the Bureau in controlling and eradicating diseases among domestic animals of the country since its establishment in 1884. Dr. Melvin, however, has been far too modest in claiming the credit which is due the Bureau not only from the whole live stock industry, but from the entire population of the country. He has simply set forth that outbreaks of such virulent diseases as pluero-pneumonia and foot-and-mouth disease among cattle were entirely banished from the United States in comparatively short spaces of time, that sheep scab has been almost entirely eradicated from the Northwestern ranges, and that maladie du coit, a virulent disease among horses, has been effectively stamped out. He deferred to expatiate upon the fact that the banishment of foot-and-mouth disease from our shores was a most extraordinary achievement, and that this consummation, in the short space of six months time, was nothing short of phenomenal. Various countries have had it in their herds for hundreds of years, a fact which has served to completely bar them from trade with other nations. This was the fate which would have befallen American live stock producers had the malady not been so summarily eliminated. It was the same with pleuro-pneumonia, an outbreak of which in 1886, extended from the Atlantic seaboard to the State of Illinois and threatened to involve the whole cattle industry. Why is it, the question may be asked, that these diseases have been so promptly and effectually wiped out. First, because of the efficiency of

the Bureau of Animal Industry, but more so because ample funds were at the command of the Bureau in those emergencies. When foot-and-mouth disease had already spread all over the New England States, Congress became alarmed and made a special appropriation of $500,000 to deal with the disease. With the funds at hand, the agents of the Bureau were enabled to go into the territory and thoroughly clean up the disease. The same was the case with pleuro-pneumonia. Ample appropriation was made and over $1,500,000 expended before the country was rid of the malady. These instances are only cited to show what can be done by the Bureau when adequate funds are at its disposal. Right at the present time we have prevalent among our domestic animals several diseases which call for measures of restriction and eradication. Principal among these may be mentioned Southern cattle fever and tuberculosis. Others could be mentioned, but these two stand out most prominently. The first named has been prevalent for years, and has caused millions of dollars loss to cattlemen of the country in mortality among cattle and restrictions to trade. Though progress has been made from year to year in reducing the affected area, this progress has been slow and uncertain because it has not been possible with the funds at hand to pursue a combined and systematic campaign against the disease. In the last few years, with the discovery of the petroleum dip, a greater part of the territory could have been cleaned up, had the necessary funds been available for the work, and if Congress will appropriate enough money the entire territory can be cleansed of infection in a few years. What advantage this would be to the whole live stock industry cannot be estimated. The other disease named—tuberculosis—is even a more serious question at the present time and calls for prompt and energetic measures to suppress it, or rather to eradicate it. The rate at which this insidious malady has been spreading in the last few years should cause great general concern, not only because it threatens the health of our animals, but of the whole human family. The Bureau of Animal Industry needs more money to carry on its work, and this work is not only for the benefit of the live stock industry, which is one of our chief sources of wealth and dependence for trade, but for the whole citizenship of the United States. Congress should wake up to the fact that it is pursuing a pennywise and pound foolish policy in dealing with one of the most important departments of the Government.—(*National Live Stock Reporter, St. Louis, Mo., Jan. 1, 1906.*)

VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table will be found the dates, places of meeting, and Secretaries' names and addresses of all the Veterinary Medical Associations of the United States and Canada. Secretaries are requested to see that their organizations are properly included in the list.

Name of Organization.	Date of Next Meeting.	Place of Meeting	Name and Address Secretary.
American V. M. Ass'n.....	Aug. 21-24, '06	N. Haven, Ct.	J. J. Repp, Phila., Pa.
Vet. Med. Ass'n of N. J.....	July 12-13, '06.	Asbury Park.	W. H. Lowe, Paterson.
Connecticut V. M. Ass'n.....	Feb. 6, 1906.	Hartford.	B. K. Dow, Willimantic.
New York S. V. M. Soc'y....	Sept. 11-12-13	Buffalo.	G. T. Stone, Binghamton.
Schuylkill Valley V. M. A....	June 20.	Reading.	W. G. Huyett, Wernersville.
Passaic Co. V. M. Ass'n.....	Monthly.	Paterson, N. J.	H. K. Berry, Paterson, N. J.
Texas V. M. Ass'n.....	March 30.	Dallas.	E. L. Lewis, Waxahachie.
Massachusetts Vet. Ass'n.....	Monthly.	Boston.	F. J. Babbitt, Lynn, Mass.
Maine Vet Med. Ass'n.....	2d Wed. April.	Belfast.	R. E. Freeman, Dexter.
Central Canada V. Ass'n.....	.....	Ottawa.	A. E. James, Ottawa.
Michigan State V. M. Ass'n...	Feb 6, 7, 1906	Lansing	Judson Black, Richmond.
Alumni Ass'n N. Y.-A. V. C..	April, 1906.	141 W. 54th St	W. C. Miller, N Y. City.
Illinois State V M. Ass'n.....	July 12, 1906.	Bloomington.	F. H. Barr, Pana.
Wisconsin Soc. Vet. Grad.....	Call of Pres't.	Sheboygan.	S. Beattie, Madison.
Illinois V. M. and Surg. A....	.....	.....	J. M. Reed, Mattoon.
Vet. Ass'n of Manitoba.....	.....	.....	F. Torrance, Winnipeg.
North Carolina V. M. Ass'n...	.....	.....	T. B. Carroll, Wilmington.
Ontario Vet. Ass'n.....	.....	.....	C H. Sweetapple, Toronto.
V. M. Ass'n New York Co....	1st Wed. Mch.	141 W. 54th St	D. J. Mangan. N. Y. City.
Ohio State V. M. Ass'n.....	.....	Columbus.	W H. Gribble, Wash'n C.H.
Western Penn. V. M. Ass'n...	1st Wed. ea. mo	Pittsburgh.	F. Weitzell, Allegheny.
Missouri Vet. Med. Ass'n.....	.....	.....	F. F. Brown, Kansas City.
Genesee Valley V. M. Ass'n...	July 12, 1906.	Roch t'r, N. Y.	J. H. Taylor, Henrietta, N. Y.
Iowa State V. M. Ass'n.....	.....	.....	H. C. Simpson, Denison, Ia.
Minnesota State V. M. Ass'n..	.....	.....	J. G. Annand, Minneapolis.
Pennsylvania State V. M. A...	March 6 and 7	Philadelphia.	C. J. Marshall, Philadelphia
Keystone V. M. Ass'n.....	2d Tues. Feb.	Philadelphia.	A. W. Ormeston, 102 Herman St., Germantown, Pa.
Colorado State V. M. Ass'n...	1st Mon. in June	Denver.	M. J. Woodliffe, Denver.
Missouri Valley V. Ass'n	Feb. 12-13, '06	Kansas City.	B. F. Kaupp, Kansas City.
Rhode Island V. M Ass'n....	June and Dec.	Providence.	T. E. Robinson, Westerly, R. I
North Dakota V. M. Ass'n....	.....	.....	E. J. Davidson, Grand Forks
California State V. M. Ass'n...	Mch. Je. Sep, Dc	San Francisco	P. H. Browning, San Jose.
Southern Auxiliary of California State V. M. Ass'n....	Jan. Apl. Jy, Oct.	Los Angeles.	H. D. Fenimore, Los Angeles
South Dakota V. M. A.....	July, 1906.	Brookings.	E. L. Moore Brookings.
Nebraska V. M. Ass'n.....	.....	.....	Hans Jenson, Weeping Water
Kansas State V. M. Ass'n.....	Jan. 8-9, '07.	Topeka.	Hugh S. Maxwell, Salina.
Ass'n Médécale Veternaire Francaise "Laval,".....	1st & 3d Thur. of each month.	Lect. R'm Laval Un'y Mon.	J. P. A. Houde, Montreal.
Alumni Association A. V. Col..	April each yr.	New York.	F. R. Hanson, N. Y. City.
Province of Quebec V. M. A...	.....	Mon. & Que.	Gustave Boyer, Rigand, P.Q.
Kentucky V. M. Ass'n.....	.....	.....	D. A. Piatt, Lexington.
Wolverine State V. M. Ass'n..	.....	.....	W. W. Thorburn.
Washington State Col. V. M. A.	Monthly.	Pullman, Wa.	Wm. D. Mason, Pullman.
Indiana Veterinary Association.	.....	.....	E. M. Brouson, Indianapolis.
Iowa Nebraska V. M. Ass'n..	.....	.....	A. T Peters, Lincoln, Neb.
Louisiana State V. M. Ass'n..	.....	.....	E. P. Flower, Baton Rouge.

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